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ABSTRACTS COLLECTION

The 46th Annual Meeting of the European Society for Blood and Marrow Transplantation: Nurses Group Poster Session (NP001-NP043)

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Nurses Group Poster Session

NP001.

Effects of Treatments for Haematological Malignancies on Sexuality and Fertility: When do Patients Need it and Whom Really Wants to Know?

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Background: Many cancer patients and their partners can be disappointed by the information provided to help them having to cope with the changes in sexuality and/or infertility they experience. The aim of the present study was to identify the need for information on sexuality/fertility among patients and partners within the first 18 months of treatment for haematological malignancies.

Methods: This study is part of a larger prospective cohort study measuring the need for information among patients with hematological malignancies and their partners. A total of 344 adult patients and their partners were invited to participate after the diagnosis of a haematological malignancy (T0), and at 3 months (T1), 6 months (T2), 1 year (T3) and 18 months (T4) follow-up. The Sexual and Fertility Information Needs Questionnaire (SFINFOQ) was used in the present study and comprises of items about

1. informational needs regarding fertility (2 items),
2. informational needs regarding changes in sexuality (3 items),
3. informational needs regarding support for sexual difficulties (2 items), and
4. the precautions that need to be taken (1 item).

The response format of the items was a 5-point Likert scale (range: not important, a bit important, important, very important, extremely important). The responses "very important" and "extremely important" were used to define a strong need for information.

Results: In total, the SFINFOQ was completed by 266 patients (77.3%) and 134 partners (72.8%) on one or more time points from diagnosis until 18 months after start of the treatment; 40%–48% of the patients and 34%–53% of the partners reported a strong information need regarding sexuality during the 18 months after diagnosis. Regarding fertility, 19%-25% of the patients and 11%–19% of the partners had a strong informational need, whereas 80%–93% of the fertile female patients reported a strong need. A strong informational need regarding sexuality was most commonly reported in patients with a monitoring coping style ($p = <0.001$), age < 36 years ($p = < 0.001$), and male gender (except for informational needs regarding support) ($p = 0.030$ and $p = 0.001$). A strong need regarding fertility information was most commonly reported in patients age < 36 ($p = < 0.001$), and patients with no committed relationship ($p = 0.040$).

Conclusions: A significant proportion of patients treated for haematological malignancies, and their partners, have a

persistent strong need for information on sexuality and fertility before and during the first 18 months after treatment. Age, gender, cognitive coping style, and relationship moderated these needs for information. These findings are of great importance for clinical practice: healthcare providers are encouraged to provide adequate information regarding impaired sexuality and fertility.

Disclosure: Nothing to declare.

NP002.

Determining the Symptoms and Coping Methods of Patients at Home After Hematopoietic Stem Cell Transplantation

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Background: Hematopoietic stem cell transplantation (HSCT) is widely used to treat malignant hematological neoplasms and non-malignant hematological disorders. The goal of HSCT is not only to improve survival, but also to maintain the patient's quality of life. This treatment method with severe morbidity and mortality has various symptoms and complications in which psychological and physical difficulties are experienced.

This descriptive study is planned to investigate the symptoms experienced at home in the early period after discharge and the variables affecting these symptoms in patients who underwent HSCT, and to determine the coping behaviors used by patients in the management of these symptoms and to evaluate the quality of life.

Methods: A total of 200 patients who had HSCT, at Anadolu Medical Center Hospital, and who continued to follow-up in the hematology outpatient clinic between October 2017 and November 2018 were included in the study. Patient Assessment Form, Memorial Symptom Assessment Scale (MSAS) ve The European Organization for Research of Cancer Quality of Life Core (EORTC QLQ C-30) were used as the evaluation tool. Data were collected by face-to-face and telephone interviews lasting approximately 30 minutes. Information about the disease and treatment was obtained from the patient's medical records. Mann Whitney U test, Kolmogorov-Smirnov test and Kruskall-Wallis test were used for statistical evaluation of the data. The statistical significance threshold was defined as $p < 0.05$.

Results: The majority of the patients in the sample group was married (82%) and the mean age of the sample was approximately 51, 39% ($n = 78$) of the patients were female, and 61% ($n = 122$) were male. The most common symptoms of them after discharge from HSCT were; pain (63%), fatigue (48%), loss of appetite (43%), feeling bloated (38%), difficulty concentrating (35%), nausea (30%), dry mouth (29%) and changes in skin (21%). Gender, clinical diagnosis, transplantation type, occupation, education status, post-discharge re-hospitalization status, family type, supporter, income level, presence of comorbidities and the number of problems experienced were found to be the most significant variables affecting the quality of life and the symptoms of the patients ($p < 0.05$). Regarding the methods of coping with the symptoms, it was found that the patients genereally received support from the case managers. Besides, majority of them have sufficient education, learned from the nurses, and acted in accordance with the coping behaviors described in the literature. With regards to effectiveness of the approaches used to deal with the symptoms, approaches used by the patients related to nausea-vomiting, fever, insomnia symptoms were found effective in general, whereas approaches to weight loss and anxiety symptoms were generally ineffective.

Conclusions: In conclusion, patients experience various symptoms at different levels and frequency after HSCT and these symptoms affect their quality of life significantly. Therefore, patients need guidance and support in dealing with the symptom control. Further studies with larger sample sizes should be done to investigate symptoms experienced by the patients during HSCT, affects of the symptoms on the patients' quality of life, factors affecting these symptoms and ways to increase quality of life.

Disclosure: Nothing to declare.

NP003.

Peripheral Blood Stem Cell Transplant (Pbsct) Within an Ambulatory Care Setting; A Patients' Perspective

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Background: The aim of this presentation is to examine the experience, the benefits and disadvantages of an ambulatory care service from a patients perspective.

The intentions of an ambulatory service is to not only overcome the high demand for inpatient beds, but the financial savings to the NHS has been well documented. Mehta & Dulley (2009) & NHS England (2014) state, simply having the choice on where and how patients receive their treatment proves invaluable and an important factor in a patients' satisfaction. The Cancer Reform Strategy also provides valuable evidence to support that an Ambulatory model of care improves a patients experience.

This established model of care identifies that patients' feel less institutionalised; are more engaged to mobilise, eat well and sleep better which, in turn, has a positive correlation to their psychological wellbeing and motivation.

Methods: Questionnaires: 9 questionnaires were submitted and analysed. Patients were recruited from multiple age groups and asked to answer 10 multiple choice questions in relation to their experience and satisfaction within an ambulatory care service.

(Videoed interviews with previous patients will also be incorporated into the presentation).

Results: 62.5% of the patients asked strongly agreed that they would choose to have their treatment performed again within the ambulatory setting.

50% of those patients asked also claimed they felt safe during their treatment.

Lack of confidence in regards to self administering medication had been highlighted as a negative, this feedback has since been managed by implementing a new and more intuitive medication drug chart.

Overall, the results were positive.

In addition to the closed questionnaire, all of the patients were keen to write an additional comment, all of which examining the benefits and impact ambulatory care had on their wellbeing. Ambulatory care is generally perceived as providing a better quality of life (QOL) as it gives patients the perception of control. Generally performing PBSCT as an outpatient is associated with significant improvement in nutrition, mental health and exercise. The experience and knowledge of nursing staff has to be effective and up to date in order to provide support to the patient and care-giver and in-turn alleviate and implement effective symptom management. The ACU team has received excellent feedback due to their knowledge and experience and the ability to deal with different issues or concerns that have emerged.

Conclusions: Even though the service has obtained positive feedback, it is noted that further research is required in order to minimise some of the anxieties expressed by patients.

Disclosure: Nothing to declare.

NP004.

Are Tympanic Thermometers Reliable in Hematopoietic Stem Cell Recipients?

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Background: Temperature, as one of the vital signs is very important, especially in neutropenic patients and it can be measured in several ways; axillary, tympanic (ear), oral, or rectal. Ear and oral measurements provide results much quicker than axillary measurements and are both less invasive than the most precise rectal measurements. Reliability of tympanic temperature measurements has been proven for clinical purposes and axillary thermometers are nowadays frequently replaced with ear thermometers in lots of departments. The data is less clear for oral temperature measurements. However, both ear and oral temperature measurements can differ slightly from axillary measurements. This marginal difference, maybe not so important in non-neutropenic immunocompetent patients might have a greater importance in transplanted, neutropenic patients since fever remains the main indicator of infection. In immunocompromised patients infection often warrants microbiological work-up and prompt initiation of empiric wide-spectrum antibiotic therapy. In order to evaluate temperature measurements performed by different methods and its possible consequences, axillary and tympanic temperatures were measured simultaneously in a cohort of transplant patients.

Methods: Eight consecutive patients who have received an allogeneic stem cell transplant at the Bone Marrow Transplantation Unit in the Department of Hematology University Hospital Zagreb were included in this study. All patients were in peritransplant period, and neutropenic at some days during the investigated period. Axillar and tympanic temperatures were measured over 15 consecutive days at ten timepoints (at 6, 8, 10 AM, 12, 2, 4, 6, 8, 10 PM, and 12 AM) in order to determine whether there is a difference between the two measurements. Tympanic temperature was measured with Covidien Genius™ 2 thermometer and axillar temperature was measured with glass thermometer with metal liquid for 5 minutes on an underarm that was dry prior to measurement. For statistical analysis paired sample t-test, Pearson correlation, and inter rater agreement - kappa test were used.

Results: As expected, tympanic measurements were slightly higher. On average, across 877 measurements the difference between these two was 0.049 °C (standard deviation 0.314 °C; range -1.1 - 1.3 °C) and the difference was statistically significant ($p<0.0001$). The values were in good correlation ($r=0.854$, $p< 0.0001$), furthermore, both types of temperature measurements were mostly congruent for febrile status (>38 °C) identification (kappa=0.756).

Conclusions: Fever is very important in hematopoietic stem cell recipients, especially if they are neutropenic. Tympanic temperature measurement is easier and much faster than axillary measurement, which is the reason why it is nowadays broadly used in many departments. Our results

on a limited number of patients confirm the differences in axillary and tympanic temperatures, but also show a high degree of their correlation especially for febrile status identification. We conclude that tympanic thermometers are reliable and can probably be used instead of axillary thermometers. However, the clinical importance of fever in neutropenic patients and the widespread use of tympanic thermometers due to few discrepancies observed warrants further evaluation in a bigger patient population.

Disclosure: No disclosures.

NP005.

Reducing Antithymocyte Globulin (Atg) Infusion Related Reaction by Increasing the Infusion Duration in Adult Sct Patients; A Single Institution Experience From Saudi Arabia

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Background: Antithymocyte globulin (ATG) is used for allogeneic hematopoietic cell transplantation (HCT) to decrease the risk of graft versus host disease (GVHD). Infusion of ATG is commonly associated with infusion reactions such as fever, chills, blood pressure changes and tachycardia. ATG infusion reactions prevention strategies are not well documented in the literature. Product labeling recommends pre-medications (corticosteroid, acetaminophen, antihistamine) and suggests a 4-6 hour administration time. There is a clear need to investigate optimum administration methods as such reactions are associated with morbidity and increased health care associated costs. The aim of this study was to analyze the incidence of reactions associated with two administration protocols; over 6-12 hours vs. 24 hours.

Methods: After due IRB approval, patients that received ATG (thymoglobulin; Sanofi) as part of the conditioning regimen for HCT were identified and records retrospectively reviewed. A multi-disciplinary meeting involving physicians, nurses and pharmacists decided to prolong the infusion time to 24 hours (total dose given via two bags each over 12 hours to maintain drug efficacy). This decision was established to examine whether the longer infusion time is associated with a decrease in infusion reactions. Premedications were given every 6 hours.

Results: From 2010 until 2018, a total of 52 patients received ATG and were further analyzed. Among them 12 (21%) patients received ATG over 6-12 hours while the remaining 41 (79%) received it over 24 hours. Among the 6-12 hours group, 8 (73%) experienced an infusion reaction; 5 (63%) were mild consisting of fever and limited rash while the remaining 3 (37%) experienced a severe reaction consisting of hypotension and respiratory compromise with 2 patients requiring admission to the intensive care unit (ICU). On the other hand, for patients with prolonged infusion a total of 12 (29%) of patients experienced an infusion reaction. A total of 11 (92%) were mild whereas the remaining patient experienced a severe reaction without the need for ICU transfer.

Conclusions: We observed that prolonging the ATG infusion time is associated with a decrease in incidence and severity of infusion reactions. These preliminary results are encouraging and warrant further evaluation for confirmation.

Disclosure: nothing to declare.

NP006.

Construction of Quality Indicators System of Nutrition Care for Adult Patients with Hematopoietic Stem Cell Transplantation Through An evidence-based Approach

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Background: Malnutrition has been identified as affecting patient and the immune system and time of engraftment, and it's also associated with transplant mortality and morbidity in patients undergoing hematopoietic stem cell transplantation (HSCT). Dynamic nutrition care and scientific assessment system is highly important for the nutrition practice. The aim of this study is to construct scientific, sensitive and practical quality indicators system of nutrition care for adult patients with HSCT, so as to provide scientific and objective monitoring standards for nursing quality of nutrition management.

Methods: The primary framework of the quality indicator system was conducted based on the models of Donabedian's structure-process-outcome and Nutrition Care Process (NCP). Through evidence synthesis and group discussion, appropriate quality indicators of nutrition care feasible to application were determined, and calculation formulas and implementation details were decided. Finally, Delphi method was used to conduct two rounds of enquiries in 28 experts to determine the formal nutrition care quality indicators system for adult patients with HSCT.

Results: The nutrition care quality indicators system for adult patients with HSCT included 3 first-class indicators,

12 second-class indicators, and 38 third-class indicators. Positive coefficients of two rounds of expert consultation were 93% and 100%, authority coefficients were 0.90 and 0.94, respectively, and the coordination coefficients were 0.31 and 0.37 ($p < 0.05$).

Conclusions: The nutrition care quality indicators system for adult patients with HSCT was conducted through scientific framework and method, and it's scientific, feasible and practical. It can be used as a convenient tool for nutrition care practice and quality evaluation in patients with HSCT.

Clinical Trial Registry: No

Disclosure: Nothing to declare.

NP007.

Nurse Led Telephone Follow Up for Late Effects Service

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Background: As a result of the expanding indication for haemopoietic stem cell transplantation(HSCT) and improvements in supportive care leading to decreased mortality, the use of HSCT for treating various malignant and non-malignant diseases is increasing.

As the majority of survivors are living beyond the first 2 years after HSCT, they are at risk of developing complications and late effects.

The problems facing these patients have also changed e.g. focus has shifted from not only end-organ toxicity but includes additional issues such as psychological.

It has become evident that:

- not all appointments are necessary
- not always convenient
- not always risk stratified.

As clinic numbers continue to increase it is essential that we risk stratify patients attending clinic in order to promote a better, more efficient service. At 2 years post-transplant, patients will be transferred onto a nurse-led telephone follow-up service to monitor any long-term effects.

Methods: A questionnaire was given to patients who attended a Consultant led late effects Clinic based in Glasgow covering the whole of Scotland and Islands. The aim of the survey was to identify areas for improvement in order to maximise the use of resources and better serve the needs of the patient group.

A total of 68 patients were given the questionnaire with 100% completion.

This survey identified for some patients the amount of travelling time to attend the clinic affected their satisfaction with the service. It identified that there was a need to reduce travel time and it became evident that Consultant time could be better used and limited clinic space could be used more effectively.

A nurse led telephone clinic has been set up using a Performa which covers recommendations for post-transplant late effects. This Performa covers physical issues, sexual health, psychological concerns, cognitive changes and financial concerns.

Patients bloods, blood pressure, pulse and weight are performed locally and are available for review prior to the patient's consultation. A Holistic Needs Assessment (HNA) is sent to patients to complete prior to consultation providing a valid tool to assess patient needs.

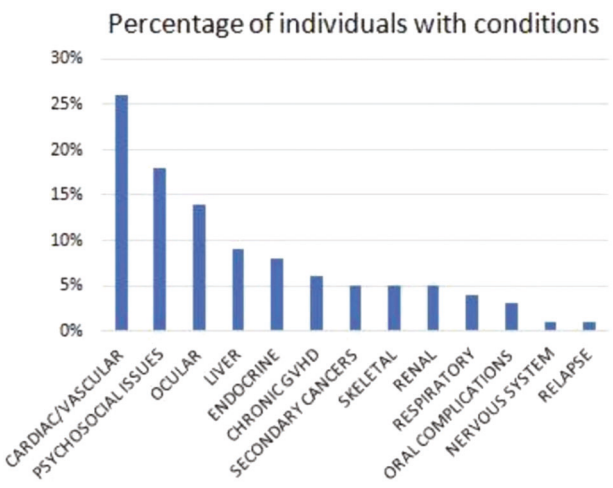
Results: The aim of the service is to enable patients to receive appropriate healthcare without the burden of a hospital visit. Improving the patient experience and to use outpatient clinic capacity more effectively, also free Consultant time. Encouraging patients to self-manage.

This clinic has been in operation since April and the plan is to perform an audit at 1 year. Currently initial feedback is positive from patients. Information has been gathered on the first 200 patients and are illustrated in the graph.

Conclusions: This service is proving to be the way forward in managing a large geographical area. As patient numbers increase a nurse-led telephone follow up clinic can be provided for this patient group.

Using a performa and a validated tool (HNA) ensures all areas of late effects are incoperated in the consultation.

This service is proving to be feasible with intial feedback from patients being posititve including reduced travel and less time off work.



[Conditions Identified]

Disclosure: Nothing to declare.

NP008.

Are Caregivers Receiving Enough Information to Care? A Pilot Study on a Haematological Transplant Unit

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Background: Hematopoietic stem cell transplant (HSCT) is a complex and demanding procedure that requires assistance of caregivers. Carers factors may influence on HSCT patient outcomes such as length of stay. The aim of the study was to describe the caregiver burden perceived by principal carers of hematological patients and to identify the value of the information received from healthcare professionals to care for their sick ones.

Methods: Pilot cross-sectional descriptive study. The population were principal caregivers of patients with hematological diseases who had received or were potential candidates for HSCT and admitted at the hematology ward between November 2017 and February 2018 with at least one previous admission. Data were collected through a self-administered paper anonymous questionnaire designed ad hoc and previously piloted. It collected patients and carers demographic and disease variables; value of the information received by carers, professional who informed and caregiver burden measured through Zarit abbreviated 7 items scale, with a score ranging from 7 to 35 points. A score of 17 or above was considered caregiver intense burden.

Results: Thirty questionnaires were delivered; response rate was 83.3%. Mean number of admissions within the previous year was 2,5 (SD 1,53). Out of the 25 participants, 52% of patients were male. Leukemia was the most suffered disease (52%), followed by lymphoma (32%). Carers were mainly partners (72%), sixty percent were women, 84% were married, 72% held a university degree and 40% had to made changes at work to care. Mean caregiver burden was 18,16 points (SD 6,04), with 68% of carers, scoring over 17 points. The perceived value of information received by carers was good (4 or 5 points in Likert scale) for medication (72% of the cases), hygiene (68%), social life (64%), diet and physical exercise (56% each) and protection against infections (52%). On the contrary, less than 50% of carers valued enough information in infection control (32% of carers), signs and symptoms of alert (24%) and recommendations on visits (24%). Regarding care of venous catheters, 40% of carers declare.d having received enough information.

Carers perceived that the information received had been given to them by nurses alone, or along with physicians in hygiene in (68%), venous catheter care (80%), protection against infection (56%) and visits (52%).

All carers would have liked to have a telephone number or email address to contact the team in case of doubts once they were discharged. Finally, 76% of the surveyed carers did not know any oncohematologic patient group association.

Conclusions: Most carers in our unit are partners, mainly women. Caregiver burden is an issue that needs to be addressed. Information to carers must be reinforced especially regarding signs and symptoms of alert, protection against infections, visits and venous catheter care. It might be useful to inform carers about patient groups associations as another source of support. It is important to continue with the study to identify carers information needs for a better care of patients and of themselves.

Disclosure: Nothing to declare.

NP009.

Effect of Nurses Education Program on Catheter Related Blood Stream Infections

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Background: Central venous catheters (CVCs) are essential for the treatment of many patients with haematological malignancies. Haematological population is at high risk for catheter related blood stream infections (CRBSIs) that can result in substantial morbidity, mortality, and health-care-associated costs. Although the optimal approach to reduce CVC associated infections is unclear, recent studies indicate that educating healthcare workers can decrease the rate of CRBSIs.

Methods: To determine whether a focused education initiative in a bone marrow transplant (BMT) unit could decrease the catheter related blood stream infection rate, we developed a module aimed primarily at specialist nurses. This was based upon the fact that our nursing staff carries primary responsibility for catheter maintenance.

We included in the study all consecutive adult haematological patients exposed to allogeneic BMT in a period of 18 months, inserting a CVC within 15 days prior to transplant. We registered the following parameters until day

30 post BMT: timing of blood cultures collection (drawn simultaneously from CVC and peripheral site), presence of other devices, condition of the insertion site, fever and/or infection.

We evaluated prospectively the differential time to positivity (DTP) of paired blood cultures drawn simultaneously via the catheter hub and from a peripheral venous site, with a cut-off DTP value of 120 min to diagnose a CRBSI.

The purpose of the study is to determine the rate of CRBSIs within a nurse education initiative aimed at improving CVC care.

Results: From march 2018 to august 2019 we included in the analysis a total of 100 patients (62 males, and 38 females), with a median age of 55 (range 20-76 years).

All patients were affected by malignant haematological diseases, mainly acute myeloid leukaemia, and received a myeloablative allogeneic hematopoietic stem cell transplantation with peripheral blood stem cell and graft versus host disease prophylaxis with post-transplant cyclophosphamide and sirolimus (*Blood 2016, BBMT 2015*).

We observed a median of 37 days (range 36-41 days) for CVC stay. Two patients did not present any episode requiring blood culture sampling. Blood cultures tested negative in 65 patients. At least one positive result in blood culture was registered in 33 patients. Overall 306 samples among a total of 353 blood cultures resulted negative. Overall a total of 5 CRBSIs were observed, accounting for an incidence rate of CRBSI of 1,3% for 1000 days of CVC in situ. We did not observe any correlations between the incidence of CRBSIs and altered condition of the insertion point or presence of other devices.

Conclusions: Our prospective study showed CRBSIs incidence comparable with the one reported in cancer patients in Europe (1.1-7.5 episodes per 1.000 catheter-days), confirming the role of a strict adherence in the use of guidelines and nursing care centred on evidence-based practice in the prevention of CRBSIs. Larger studies are warranted.

Disclosure: Nothing to declare.

NP010.

Exercise Support for People Post Treatment as Part of Their Return to Work Journey: A Case Study Exemplar

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Background: Work is an important part of rehabilitation and recovery post treatment (Macmillan 2012). A key part of getting back to work is enabling people to be physically fit enough to be able to do their role. There is a growing evidence base for the benefits of exercise in cancer recovery. A systematic review (Ballard-Barbash 2011) suggested that physically active individuals have lower rates of many cancers and improved cancer outcomes. Anthony Nolan identified that many people need work support but there are limited access points for such input. In response they collaborated with Working to Wellbeing, a work support service. During delivery of this service it was identified that a number of patients needed physical support. In response a brief exercise intervention was included and the benefits assessed

Methods: A brief, physiotherapy led, intervention was offered to patients who wanted to become fitter and more active but didn't know where to start. The intervention was between one and two hours long and formed part of a now well-established work support service provided by Anthony Nolan. The service comprises an initial assessment and follow ups.

Results: An exploratory case study approach was taken: At initial assessment Debbie reported that she was struggling and was tired all the time, she was finding it hard to exercise and had put weight on following treatment moving from 10 to 14 stone. She reported having lost muscle bulk and was in a wheel chair early post-transplant. Her consultant had tried to encourage walking but there was no area on ward available.

She found it hard to commit to exercise as she had done prior to diagnosis. Furthermore, her work is office based with limited opportunities for physical activity.

She requested support to get fitter and start exercising again. She had a 1 hour assessment followed by 1.5 hours exercise and stress management support.

At the end of the intervention she was walking regularly at lunchtimes and was trying to walk 6,000 steps with the goal of increasing to 8,000.

At the start of the intervention her Exercise Vital Sign (EVS) was measured, this is the minutes of exercise that she is engaged in x the number of days per week. Baseline she scored 0 for moderate intensity and for low intensity activity was 630. At final review her score was 200 at moderate intensity and 840 at low intensity.

Conclusions: Anthony Nolan are the first UK charity to provide a biopsychosocial return to work support initiative to support people post stem cell transplant. This service has been extended to include a brief exercise advice session. Early qualitative data are positive and indicative that exercise support is of benefit in this sample of people. The next steps is to offer a standalone exercise program for people to access with more time allocated to meet their exercise needs.

Disclosure: Nothing to declare.

NP011.

Patient Information Sheet for Patients Undergoing Hematopoietic Cell Transplantation: The Impact of the Disease and Treatment on Sexual Function and Sexuality

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Background: Sexual concerns are common after Hematopoietic Cell Transplantation (HCT). Exposure to total body irradiation, alkylating agents, and graft versus host disease (GvHD) can all affect sexual function. While healthcare providers (HCPs) have the responsibility to address sexual issues, it has been demonstrated that the majority HCT recipients reported not having discussed sexual issues with their HCP. However, to empower patients addressing sexual issues, adequate comprehensive patient information is needed. In an effort to better meet the patients' need, a patient information sheet: "Information for patients undergoing Hematopoietic Cell Transplantation: the impact of the disease and treatment on sexual function and sexuality," has been created.

Methods: Relevant published literature was used to identify the pathophysiology and the available strategies for sexual problems in hemato-oncological patients and HCT survivors.

Results: Malignant hematological diseases and HCT can have an impact on body image, self-esteem, (sexual) relationship and psychosocial factors, all of which are able to affect sexuality and sexual function. The sexual dysfunctions that HCT survivors face are decreased sexual activity, less sexual desire, erectile dysfunction or decreased vaginal lubrication, sexual pain (dyspareunia), orgasm problems, and genital changes. Sexual function of female survivors is not likely to improve without an intervention, whereas sexual function of male survivors might improve within the first 2 years without intervention.

Within hemato-oncology and HCT, efficacy of treatment strategies for sexual problems have not yet been demonstrated. However, it has been shown that HCT survivors have better sexual function outcomes when they have discussed sexual health with their HCP. In the case of sexual problems due to hypogonadism and erectile dysfunction, testosterone and phosphodiesterase type 5 inhibitor (PDE5 inhibitors) might be worth trying. For treatment or prevention of postmenopausal vaginal atrophy, hormonal replacement therapy (systemic and topical) and vaginal lubricants/moisturizers are available. There are several HCPs and disciplines that may facilitate patient management. In cases where there is a suspicion or clinical manifestation of genital GvHD (such as genital changes, urinary symptoms, or sexual concerns), patients should be referred either to a clinicians trained in the assessment and management of genital GvHD, for assessment and management of genital GvHD.

HCT survivors need to be aware of the changes and the support that is available. Therefore, they need to be informed about the impact that HCT as well as GvHD can potentially have on both sexuality and sexual function. The majority of patients prefer verbal and written information. After informing the patient it is easier for HCPs to address urinary symptoms and sexual health, resulting in timely referral for adequate management.

Conclusions: HCT survivors need to be informed about the sexual changes they can experience and the support that is available. In an effort to better meet the patients' need, a patient information sheet: "Information for patients undergoing Hematopoietic Cell Transplantation: the impact of the disease and treatment on sexual function and sexuality," will be presented.

Disclosure: Nothing to declare.

NP012.

Changing Practice by Using Cycloprime 1.5G/m2 Priming Regime Up Front for Lymphoma Patients to Ensure Good Mobilisation of Stem Cells

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Background: The Apheresis service provided by the South Wales Blood and Marrow Transplant Programme situated in the University Hospital Of Wales, Cardiff, serves a population of nearly three million from across South and Mid Wales.

Over the last four years there has been on average 133 referrals per year for autologous and sibling peripheral blood stem cell harvests(PBSCH).

Yearly priming outcome audits demonstrate that the 1.5g/m^2 cyclophosphamide priming protocol yields the best outcome for patients with myeloma and consistently results in, on average,89% of patients having a successful PBSCH from 2016–2018. It is evident from using the same audits that certain priming protocols used for patients with relapsed non-hodgkin's lymphoma, follicular lymphoma and hodgkin's disease are less successful resulting in a higher proportion of patients failing to mobilise adequate stem cells. In the light of the success of 1.5 g/m² cycloprime

for myeloma we introduced the regimen in patients with lymphoma where we have previously had difficulties collecting adequate stem cells.

Methods: Prospective data for the predicted day of mobilisation, CD34+ stem cell dose harvested, details of priming regimen used and underlying disease was entered into a local database. The table below summarises the data for lymphoma patients referred for PBSCH between 1st Jan 2017 to 31st September 2019.

Regimen	Success to prime results 2917	Success to prime 2018	Success to prime results 2019	Total numbers over 3 years
G CSF only	8/11=77%	10/13=77%	3/6=50%	21/30=70%
Cycloprime 1.5g/m^2	0/6=0%	2/3=66%	9/14=64%	11/23=47%
Bendomustine/ Brentuximab	Not given	Not given	0/1=0%	0/1=0%
R Eshap/Eshap	1/1=100%	2/2=100%	4/4=100%	7/7=100%
Matrix	4/4=100%	0/1=0%	1/1=100%	5/6=83%
IGEV	1/1=100%	2/2=100%	4/4=100%	7/7=100%
R-IVE	1/1=100%	2/2=100%	2/2=100%	5/5=100%
R-ICE / ICE	0/2=0%	0/2=0%	Not given	0/4=0%

[Table To Summarise The Success Of Priming Protocols For The Mobilistion Of Stem Cell Foe Lymphoma Patients Between 2017-2019]

Results: ailure to mobilise stem cell was observed following ICE / R-ICE priming which has also been observed in previous years. Although cycloprime 1.5mg/m²was successful for myeloma, the results for lymphoma patients were not as good with only 47% overall success rate but with higher success rates of 64-66% over the past 2 years. G CSF priming alone resulted in up to 70% success rate which is line with local data for myeloma patients.

Commonly used priming reimens such as E SHAP/ I GEV/ R IVE and MATRIX yield successful mobilisation for the majority of patients.

Conclusions: The 1.5g/m^2 cyclophosphamide priming protocol remains our standard regimen for myeloma patients successfully resulting in high CD34+ counts.

Due to its success this has now been adopted for lymphoma patients where collections have been more challenging. This has proved successful in cases where ICE based regimens or novel regimens are used with poor mobilisation outcomes.

Prospective data analysis has enabled continuous review of data resulting in changing practice to ensure best outcomes for patients. Further data regarding lines of prior therapy and chemotherapy regimens is also taken into account when recommending priming protocols. Further detailed analysis is on going to evaluate the effect of particular regimens on mobilisation success.

Disclosure: Jennefer Rose, Sophie Jones, Dr Wendy Ingram

Nothing to declare.

NP013.

The Challenges of Looking after an Increasing Number of Survivors Following Allogenic Bone Marrow Transplantation

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Background: Advancements in bone marrow transplantation (BMT) and post-transplant surveillance have led to increased patient numbers and long term survivors over recent years. This has resulted in many post BMT patients, from a wide region and often with complex needs. While increased survivorship is to celebrated, it has created a challenging long term issue that transplant centres need to manage.

Methods: We identified the pressure points in our service: Rising numbers of patients; Complexities and co-morbidities of patients, including psycho-social needs; Impact on Day Treatment Unit and Haematology ward capacity; Impact on post BMT clinic, including staffing and space in order to be able to review patients; Rising numbers of DLI; Management of mixed chimerism and relapsed disease, often in conjunction with GvHD; Consideration of appropriate setting for review of patients for their point of BMT recovery; Ensuring adequate and timely referral to other specialties when clinically indicated; Referring hospitals receieving more post BMT patients attending for supportive care; Re admissions with complications; Patients being monitored while at home, with complex complications of BMT; Staffing levels and skills of staff within the department

Results: Strategies in place: Good planning of clinics and spacing of face to face appointments; Use of Ambulatory Care Unit for assessment of patients during the early phase of recovery, most appropriate setting if experiencing fatigue and requiring supportive care; Dermatologist present in clinic for timely review, good links with other specialties, e.g respiratory, Gastroenterology and ophthalmology among others; Swift referral for ECP within clinic; Psychosexual

psychologist attending BMT clinic; Nurse led telephone clinics, enabling remote assessment, monitoring and intervention where possible. Patients can email photos to assess skin issues with assistance of Dermatologist; Ensuring role of nurses being used effectively; Liaison with GP's; Dietitian presence in clinic to support nutritional issues; Late Effects clinic for longer term patients, ensuring they're reviewed in correct setting; A more structured approach developed as DLI activity increases, ensuring sound assessment and best use of Day Unit; Effective communication between BMT Team, to ensure treatment plans and follow up are made, and to avoid overlap

Future Plans and strategies: To increase use of Telephone clinics and incorporate use of Skype, enabling frequent review of patients and avoidance of further complications, while avoiding long journey to hospital; Continue to develop Ambulatory Care as a recovery pathway, including nurse training to enable a nurse led pathway for these patients, incorporating a holistic approach; Increase late effects clinic capacity; Develop Satellite clinics in out referring centres; Look at non-nursing roles to share some of the post BMT support work; Investigate role of Physicians Associates for future

Conclusions: There is no doubt that the post BMT workload will only continue to increase but an awareness of this and effective planning can help to ensure patients are reviewed in a setting that is appropriate to their point of the BMT recovery journey.

BMT centres need to continually review how patients' needs are met and if they can be met using an alternative to the traditional review, one that suits patients, offering them the appropriate setting whilst streaming their care, this will enable transplant to be offered to the increasing number of patients who may benefit from BMT.

Clinical Trial Registry: N/A

Disclosure: Nothing to declare.

NP014.

Veno-occlusive Disease (Vod) after Hematopoietic Stem Cell Transplant Nursing Considerations and Management: A Case Study

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Background: This report highlights a case of hepatic veno-occlusive disease (VOD) after hematopoietic stem cell transplant. A 27 year old lady was diagnosed with Acute Myeloid Leukaemia (AML) in March 2018. Diagnosis was made on a routine antenatal full blood count taken at 24 weeks gestation. She was managed jointly between haematology and obstetrics and was given induction chemotherapy with DA 3+7 (daunarubacin and cytarabine) off clinical trial. Complete remission (CR) was achieved but the patient declined further treatment. She later delivered a healthy baby boy. She continued to decline further treatment but subsequently relapsed in November 2018. She was treated with two courses of FLAG-IDA and achieved a second CR. A myeoloablative hematopoietic stem cell transplant with cyclophosphamide and busulphan conditioning was undertaken in March 2019. Donor was a 10/10 matching female sibling, CMV pos/ neg.

Methods: The patient developed neutropenic fever and mild mucositis but engrafted timely and was discharged home following transplant. She presented to accident and emergency with acute abdominal pain and nausea on day +32 post transplant. She was admitted by the surgical team with acute cholecystitis, suspected on abdominal ultrasound and raised CRP (C-reactive protein). The patient was transferred to the haematology ward for analgesia, monitoring and intravenous antibiotics. There were no clinical signs suggestive of VOD at this point. She was non compliant with fluid balance and refused to collect urine or be weighed despite attempts from nursing and medical team. After several days her liver function tests became deranged, initially this was an isolated alkaline phosphatase (ALP), followed by alanine transaminase (ALT) and her abdomen became distended with right upper quadrant pain on palpation. By that time point her weight had increased by 10kg, and was followed by a sudden increase in her billirubin. Repeat ultrasound scan suggested portal vein flow disruption.

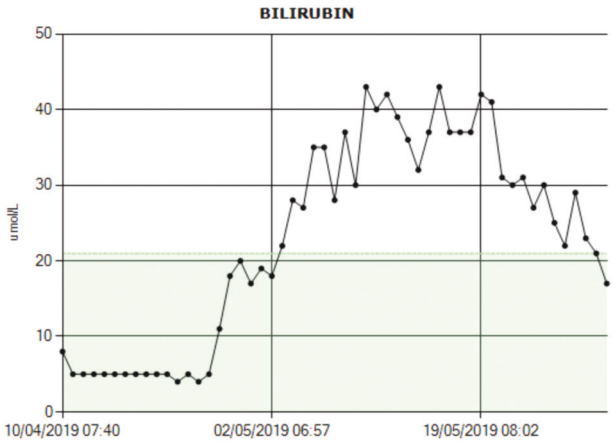
Results: A diagnosis of VOD was made and graded as severe (Mohty et al, 2016) and IV defribrotide was commenced.

Nursing management of patient: 1. Strict fluid balance-urinary catheter was inserted; 2. Daily weights; 3. Diuresis using IV albumin and diuretics; 4. Optimise analgesia, anti emetics and supportive medications (including ursodeoxycholic acid); 5. Central line care and management; 6. Maintain platelets over 30 while on defibrotide; 7. Daily blood tests including liver function testing and glucose; 8. Optimise nutrition- nasogastric tube was placed and feeding commenced; 9. Psychological support; 10. Encourage mobilising and physiotherapy referral

Over the subsequent days the patients excess fluid reduced and her liver function tests resolved significantly. Defibrotide was administered for 21 days and the patient was subsequently discharged home well.

Conclusions: This case highlights the successful treatment of late onset severe hepatic veno-occlusive disease

with intravenous defibrotide and supportive treatment. It also highlights the importance of good nursing management of this serious complication which includes strict fluid balance, daily weights, daily bloods and good nutritional interventions such as nasogastric feeding. Ongoing psychological support is also necessary. Nurses can undertake specific training using the EBMT VOD online learning programme to expand their knowledge and improve patient assessment and care.



[Billirubin]

Disclosure: Nothing to declare.

NP015.

Measuring health-related Quality of Life in Patients after Hematopoietic stem-cell Transplantation: A Three Years Following Up

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Background: The purpose of this study was to investigate and explore the changes and factors of the patients after hematopoietic stem-cell transplantation (HSCT) in longitudinal following up.

Methods: In our study, 126 patients were enrolled and their health-related quality of life (HRQOL) was assessed using the Functional Assessment of Cancer Therapy-Bone Marrow Transplantation (FACT-BMT) questionnaire before transplantation and at 1, 3, 6, 12, 18, and 36 months after HSCT. At the same time, we also collected demographic, sociological, and disease-related data to explore the factors that could affect patients' quality of life.

Results: Before transplantation, 126 patients reported a mean overall HRQOL was 144.67 (SD23.26). The quality of life score reached a minimum of 133.68 (SD, 27.00) at 1 month after HSCT and increased steadily over time to138.24 (SD, 23.79) at 3 months and 142.75 (SD, 20.33) at 6 months and 149.19 (SD, 23.51) at 12 months and increased dramatically reached 161.92 (SD, 12.93) at 18 months and 166.23 (SD, 13.76) at 36 months. Overall HRQOL returned to near pretransplant levels at 6 months and 12 months after HSCT($P = .449$; $P = .095$) and exceeded pretransplant levels at 18 months and 36 months after HSCT. In the five dimensions, the patients' social and family health was stable, and no statistical difference was found at any time point. The linear regression model showed that complications ($B = -16.772$, $P < 0.001$) and patients' participated in the work ($B = 7.559$, $P = .046$) were the factors influencing the patients' quality of life at 36 months after transplantation.

Conclusions: In this longitudinal survey, we found that the overall quality of life of HSCT patients fluctuates and increases. Patients experienced the lowest level of HRQOL at 1 month and reached its highest level at 36 months after HSCT. We also found that complications and the patients' participated in the work affected the patient's quality of life at 36 months after HSCT. We therefore concluded that we should pay more attention to the HRQOL of HSCT patients in the early stages, and the need for patients to return to the society deserved more attention in the long term care work.

Disclosure: Nothing to declear.

NP016.

Recognizing Low Health Skills and Low Literacy During Consultation

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Background: In The Netherlands, one in three persons has low health skills - ie the capacity to gather and understand information on health issues, and to take action based on this information. A part of this group has low literacy - ie their ability to read and write is at such low level that it hinders them in their daily life. Low literacy is common amongst people with a low education, the elderly and immigrants. In Europe one in five persons has low literacy.

Research has shown that there is a negative correlation between low health skills and health outcome measures.

At the Hematology department of the University Medical Center Utrecht the stemcelltransplantation nurses aim to

detect patients visiting the outpatient clinic with low health skills and low literacy at an early stage to guide our information. The aim is to communicate with these patients in such a way that they fully understand their disease process and the options for treatment.

Methods: To better connect with patients with low literacy we implemented the following procedures for patients who come for an autologous, or allogeneic stemcelltransplantation or CART cell treatment:

Nurses have been trained, improving their knowledge and communication skills by a Dutch expertise center in health differences.
During consultations "discussioncards" were used. These cards have been developed by Dutch cancer patient organizations.
Written material with clear illustrations has been developed for patients planned to undergo CAR T celltherapy.

Results: Implementation of this program has resulted in:

- Improved awareness in healthcarers about low literacy and the impact it has on the hematological patient
- The detection of low literacy due to higher awareness for verbal and nonverbal communication and behaviour that patients apply to hide their low literacy.
- Use of "discussioncards" during consultation. Discussioncards have clear illustrations and simple language. At present there are discussioncards available for leukemia, lymphoma, chemotherapy and stemcelltransplantation.
- Different interventions that can be applied to improve communication, like:

reducing the number of advices given per consultation; the use of open questions; simplifying the use of language; repeating essential points; the use of the ask-back method: "I have told you a lot, what are you going to tell your friends?"; speaking slowly; the use of short sentences.

Conclusions: In The Netherlands, one in three persons has difficulty with finding, understanding and applying information about health issues. Part of this group has low literacy. It is essential that healthcarers recognize this group early. Our communication, both verbally as well as written material and support has been adapted to better suit this group of patients. We hope that by implementing our program, patients are better equipped to take control of their disease process.

Resulting in improved health.

Clinical Trial Registry: none

Disclosure: none

NP017.

Pre-habilitation Prior to Stem Cell Transplant - One Centres Experience

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Background: There is developing evidence to support the theory that psychosocial factors pre-transplant predict survival in patients undergoing haematopoietic stem cell transplants. A study by Ehrlich et al (*Bone Marrow Transplant. 2016* Dec;51(12):1594-1598) reported that good emotional support pre-transplant was associated with longer overall survival. Pre-habilitation is defined as "a process of care that occurs between the time of cancer diagnosis and the beginning of acute treatment and includes physical and psychological assessments that establish a baseline functional level, identify impairments, and provide interventions that promote physical and psychological health to reduce the incidence and/or severity of future impairments".

Follow up care post -transplant particularly for an allogeneic transplant is extensive. Factors affecting recovery include medication compliance, monitoring for signs of infection and graft versus host disease. However, patients may be ill-prepared for these complications. Encouraging patients to attend a pre-habilitation group allows patients to be better informed about what is involved and early identification of patients that may struggle to cope with this level of commitment.

Methods: Between 2015 - 2018, 337 allogeneic and autologous transplant patients were invited to attend a pre-transplant information session prior to admission which is facilitated by the BMT CNS's in combination with a physiotherapist and psychologist. Patients are invited in writing and sent two paper questionnaires relating to generalised anxiety (GAD-7), patient health (PHQ-9) and an online holistic needs assessment.

Results: Of the 337 patients invited, 208 (62%) completed the GAD-7 and 198 (58%) completed the PHQ-9. Only 106 patients (35%) completed the online HNA. The most frequently reported concern on the HNA was tiredness and fatigue, followed by fear and anxiety.

Conclusions: Overall response rates were high with 61% for GAD-7, 58% for the PHQ 9 but only 35% for HNA. A number of factors affect the response rates, such as ease of completion, time taken to complete and design of the assessment. The use of these tools allowed us to identify patients in advance who scored highly on their assessments

who are likely to benefit from extra support both during and post-transplant. Intervention with early referral to psychological support and physiotherapy was implemented for those patients w and extra input from the BMT CNS team both during the inpatient and outpatient setting. Overall our pre-habilitation programme is designed to provide appropriate information and education prior to a stem cell transplant so that patients and carers feel empowered to cope with their transplant and subsequent recovery and potential complications. The early identification of patients with high levels of anxiety and depression pre-transplant allows for enhanced psychological support which studies have reported improved outcomes longer term.

Level of Anxiety GAD-7	No of Patients (208)	Level of Depression PHQ-9	No of Patients (198)
None	116 (56%)	None	95 (48%)
Mild	46 (22%)	Mild	61 (31%)
Moderate	33 (16%)	Moderate	30 (15%)
Severe	13 (6%)	Severe	12 (6%)

[GAD-7 and PHQ-9 Score]

Disclosure: No disclosures.

NP018.

Venous Access in Autologous Versus Allogeneic Hematopoietic Stem Cell Transplant Donors: A Retrospective Study of an Apheresis Unit

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Background: Peripheral vein access, preferably using ultrasound guidance, is preferred over central vein access in stem cells collection due to its lower risk of complications and lower cost. However, central veins allow higher drawing and return flows, reducing the apheresis time. A balance between patient safety and optimal collection time is a challenge in apheresis. The aim of the study was to compare vein access in autologous versus allogeneic stem cells collection apheresis procedures.

Methods: Cross-sectional retrospective descriptive study. All apheresis procedures for stem cells collections from Puerta de Hierro Majadahonda Hospital Blood Bank between September 2012 to October 2019 were reviewed. Variables studied: type of transplant (allogeneic, autologous). Among all autologous apheresis episodes, the following variables were studied after reviewing patients electronic medical records: venous access; cannulation site; total collection time; complications (fever within 48 hours after apheresis and thrombosis within 7 days after apheresis). Descriptive statistics were calculated. Bivariate analysis of complications comparing peripheral versus central venous access were explored.

Results: A total of 735 of donor episodes were collected from the blood bank data base (511 allogeneic and 224 autologous), of which 672 had data regarding vein access: 69.2% ($n = 465$) were allogeneic donations and 30.8% ($n = 207$) autologous. Peripheral venous access was used in 98.5% ($n = 458$) of allogeneic versus 52% ($n = 120$) of autologous donors. After the original 224 autologous procedures were revised using the patients electronic medical records, a total of 214 cases had sufficient data to be analysed: 54% of cases were men; median apheresis time was 300 minutes. The preferred drawing peripheral veins were median cubital (62%), followed by cephalic (17.1%) basilic (9.1%), and median antebrachial (11.6%). As for return, cephalic was the most frequently used vein (61.3%) followed by median cubital (35.3%), median antebrachial (2.5%) and basilic (0.8%). There was one case (0.9%) of fever within 48 hours of the apheresis procedure performed through peripheral access versus 9 cases (10.5%) within central venous procedures. This proportion difference was statistically significant ($p = 0.02$). There were no episodes of thrombosis detected in the following week after the apheresis. There were no data regarding the use of ultrasound guidance by nurses.

Conclusions: Peripheral venous access is preferred over central venous access in allogeneic stem cells collection. Almost no complications were observed. Recording the use of ultrasound by nurses is advisable in order to study it in the future

Disclosure: Nothing to declare.

NP019.

Plasmapheresis: Taking The Edge Off Graft Failure in Patients with anti-hla Antibodies Undergoing Haploidentical Stem Cell Transplantation

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Background: Allogeneic haematopoietic stem cell transplantation (AHSCT) is a curative treatment for a wide variety of malignant and non-malignant haematological conditions. The application of AHSCT as a treatment

modality has grown due to technological advances in treatment, which now makes it more accessible to a wider range of patients.

AHSCT from related and unrelated partially HLA-mismatched donors and cord blood represents a viable alternative treatment for patients with haematological malignancies when no matched sibling or unrelated donor exists. However, there are several immunological mechanisms that may lead to poor graft function/graft failure, which includes the presence of donor-specific anti-HLA antibodies (DSA) at the time of stem cell infusion for patients undergoing haploidentical AHSCT (Bramanti et al. 2019, Taylor et al., 2007).

Mechanisms of alloantibody generation and effector functions have been well described in solid organ transplant (Hickey 2016). DSA reduction is extensively reported in kidney transplantation to decrease antibody-mediated rejection and improve graft survival. Several studies showed benefits of desensitization protocols including a reduction in HLA-Abs blood levels before HLA-incompatible kidney transplantation. These treatments often consist of rituximab, immunoglobulin (IVIG) infusions and plasmapheresis (Yamada, 2015). However, DSA reduction rates are inconsistent (Douglas et al. 2017). Currently, there are limited treatment guidelines for DSA reduction prior to AHSCT to minimise graft failure.

Methods: From January 2018 to October 2019, the Imperial College NHS Trust (ICHNT) hematology department based at Hammersmith Hospital, performed 192 autologous HSCT and 96 allogeneic HSCT. Out of 96 allogeneic HSCT, 27 were haploidentical HSCT. Data was collected retrospectively from electronic patient records and stem cell laboratory records.

At ICHNT, from Jan 2018 to October 2019, we performed therapeutic plasma exchanges (TPE) on 8 patients, as a desensitization programme, prior to commencing AHSCT conditioning treatment protocol. We included 2 patients with previous graft rejection and 6 patients with known anti-HLA antibodies prior to HSCT.

The desensitization programme was commenced 1 to 2 weeks before conditioning and consists of daily single plasma volume TPE using 4.5 or 5% human albumin as the replacement fluid for three days with Rituximab (375 mg/m2) on the 4th day. All TPE procedures were undertaken using a Spectra Optia. Apheresis system in accordance with standard operating procedure. Prior to conditioning, DSA levels are repeated to ensure mean fluorescence intensity (MFI) reduction. The total number of exchanges was determined by the baseline strength of DSAs and rebound.

Results: Desensitization treatment is used to reduce antibody levels and to prevent graft failure after AHSCT. Monitoring the antibody levels pre and post transplantation is vital. The 2 patients with previous graft rejection episodes engrafted with this treatment. A further 5 patients achieved engraftment and 1 patient required stem cell top up due to graft failure. All 8 patients tolerated the desensitization programme without side-effects.

Conclusions: In conclusion, desensitization techniques that include TPE and rituximab can successfully lower DSA and take the edge off graft failure in patients with Anti-HLA antibodies undergoing haploidentical AHSCT. We encourage further studies related to this treatment regimen.

Disclosure: No conflict of interest.

NP020.

Incidence & Characteristics of Varicella Zoster Virus Infection Post Hematopoeitic Stem Cell Transplantation; Experience of a Single Center in Saudi Arabia

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Background: Recepients of hematopoietic stem cell transplantation (HCT) remain at heightened risk of varicella zoster virus (VZV) infection due to delayed immune reconstitution. Antiviral prophylaxis such as the use of acyclovir has been shown to decrease the incidence of VZV infection however the duration of such prophylaxis is unknown. At our center, we administer routine acyclovir prophylaxis for one year to all HCT recepients irrespective of factors that may delay immune reconstitution such as the use of in vivo T-cell depletion. Our aim was to study the cases of VZV infection at our center to further optimize the duration of prophylaxis.

Methods: After due IRB approval, patients that underwent HCT between March 2013 until March 2018 were identified and retrospectively reviewed. All patients had VZV serologic status assessed pre-HCT. Diagnosis of zoster was based on the acute and painful eruption of vesicles in a unilateral dermatomal disctribution. PCR testing was used to confirm unclear cases or those with a disseminated distribution. VZV infection included both chickenpox and herpes zoster infection.

Results: The incidence of VZV infection was diagnosed in 17 / 361 (4.7%) adult patients with a median follow of 803 (476-2914) days. A total of 16 (94%) of the patients were varicella seropositive. The median time of VZV infection post HCT was 438 (100-1775) days after HCT. The median time to infection post completion of prophylaxis was 107 (3-1653) days. Infection developed in three patients while on antiviral

prophylaxis. Admission was required in 10 patients for intravenous antiviral therapy or pain control and the median duration of antiviral therapy was 21 (7-35) days. 14 patients experienced chronic neuropathic pain. The prevalence of VZV was higher in malignant disease (71%) and allogeneic stem cell transplants (88%). A total of 9 (52%) of patients underwent T-cell depletion with ATG or alemtuzumab. A total of 5 (29%) patients had acute or chronic graft versus host disease (GVHD) with 3 (18%) on steroids. Incidence of neutropenia and lymphopenia was 41% and 29 %, respectively. Only 1 case of chickenpox was reported. There was no mortality attributable to VZV infection. Further results are as shown in Table 1.

Conclusions: We observed that the incidence of VZV infection is low suggesting that the use of antiviral prophyalxis for one year is adequate in the majority of cases. However, many patients developed infection within a short timeline following completion of prophylaxis. Therefore, evaluation of lymphocyte subsets may be of value to better define immune reconstitution particularly in patients at risk of delayed recovery to guide the duration of prophylaxis.

Characteristics	*N* (%)
Age, median (range)	41 (23-60)
Male, *N* (%)	5 (29)
Conditioning Intensity, *N* (%) Myeloablative Reduced / Non-Myeloablative	8 (47) 9 (53)
Duration of Antiviral Therapy, median days (range)	21 (7-35)
Duration of Follow-up, median days (range)	803 (476-2914)
Secondary Graft Failure, *N* (%)	1 (6)

[Recepients Baseline Characteristics, Risk Factors, and Features of VZV Infection]

Disclosure: nothing to declare.

NP021.

semi-structured Interview Assessment of The Clinical Nurse Educator Role in Supporting Newly Qualified Nurses During Transition to post-registration Practice Inside the Bone Marrow Transplant Setting

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Background: A preceptorship programme is currently used in the BMTU for supporting the transition of Newly Qualified Nurses' (NQN's) to post-registration practice, in which the Clinical Educator (CE) currently facilitates. This opportunity to review the effectiveness of the CE role in the NQN transitioning is vital to increase the quality of patient care in the BMT setting. Additionally, by reviewing the experiences of the NQN's in their preceptorship programme, explorations can be made into identifying ways of improving the education quality which BMT nurses receive.

Aims & Objectives: The study aimed to find out the experiences of NQN's when working in the BMTU and the quality of their educational support. This study objectives focused upon:

1. Gaining insight into the experiences of NQN in transitioning to the BMTU.
2. Reviewing the current CE role in the preceptorship of the NQN's transition to one-year post-registration.
3. Exploring current issues in the recruitment and retention of NQN's.

Methods: This study design was a qualitative phenomenological approach, designed to extract the raw data from nurse participants lived experiences. The methodology used semi-structured interviews, carried out with 10 NQN's who had recently commenced transition from student to newly qualified nurse within 6-18 months post-registration. This method was appropriate as the author could gain data from pre-determined questions which provided structure to the interview. There was room to expand and pursue greater questioning in areas the author felt was important and relevant to the objectives. Semi-structured interviews were done away from the clinical area and video taped for transcription analysis. The transcripts were coded to identify emerging themes.

Results: The findings over the three objectives showed that 90% of NQN's required support in varying degrees, due to the frequent overwhelming and intensive experiences in nursing BMT patients. Additionally all NQN's expressed how important it was to have supernumerary time in their transition period to work alongside the CE and become competent in the practical aspects of the role, such as giving therapy using central lines, managing side effects of chemotherapy and a BMT. This was recommended at 4 to 6 weeks with 50% of this being shadowed.

70% of participants concluded that preceptorship was vital for them to progress to competent & confident nurses, with 80% reporting educational development was good. Specific support for NQN's in BMT identified were increased eLearning or digital based learning scored highly.

Psychological care & wellbeing was felt important by NQN's. It was found that emotional and psychological care should be built into the preceptorship programme and kept open to all BMT nurses in the unit.

Conclusions: NQN's working in BMT units do suffer from overwhelming experiences during transition to post-registration which must be supported proactively by the CE, with strong preceptorship. This proves that CE's are a valuable resource in the delivery of preceptorship programmes, supporting clinical practice, coaching and empowering in building knowledge, competence and confidence. Positive impacts on recruitment and retention were noted where utilising CE roles within BMT units, increasing our nursing workforce education quality. This ultimately improves patient safety and quality of care.

Disclosure: Funding for the study provided by RCN Foundation Leukaemia Care Fund and LTHT Chief Nurse Fund.

NP022.

Training Nursing Programme in New Therapies: Car T Cells

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Background: The new therapies with chimeric antigen receptor (CAR) T cells require nurses with knowledge at management of hematological diseases, bone marrow transplants and immunotherapy principles, our team has knowledge and experience in hematological care patients, and specific health care, but we realize the need to investigate and increase knowledge before the implantation of the CAR T cells at our hospital.

Recommendations from the Oncology Nursing Society establish the importance of nurses knowing the class, specific agent and protocols to follow to guide the administration and monitoring of patients receiving immunotherapy agents.

The use of regulatory, organizational and evidence-based standards is essential to support the development of a successful program and, ultimately, the safety of effective care in patients.

Methods: At the beginning of this new therapy in our unit, we were first obliged to familiarize ourselves with the language of Car t cell therapy, including the terms associated with the treatment and its complications.

A bibliographic review was carried out in databases of published articles on CAR T cells (the role of nursing, management, possible complications ...).

Our team received two trainings classes from the medical staff and two more from Yescarta about the technical file and patient management, which was attended by a complete multidisciplinary team including neurology staff and intesive care unit. Also Novartis Car t cells gave two more sessions.

Part of the nursing team attended a GETH meeting (Spanish group of hematopoietic transplantation and cell therapy) and a specific course in Barcelona about how to start an advanced therapy unit in the CAR T era and transmitted the acquired knowledge to the rest of the staff.

Results: The nursing team wrote five SOPs (Standar Operating Procedures) that include the infusion of Car t cells, control and general management of the patient admitted to the hospital, management of neurotoxicity associated, management of the cytokine release syndrome, and administration of Tocilizumab.

Conclusions: Nurses are an integral part in the safety and effective care of these patients infused with Car t cells and can support best practices through continuing education as these therapies evolve.

In addition, nursing knowledge can translate into better education for patients and their caregivers about what to expect during the CAR T cell therapy process.

Disclosure: Nothing to declare.

NP023.

Use the Available Knowledge - Ensure that the Patient Receives the Best Care in Stem Cell Transplantation

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Background: Studies shows that patients treated outside hospital environment feeling better than patients treated at hospital. One of the major problems for patients undergoing treatment with high dose chemotherapy (HDCT) conditioning before stem cell transplantation (SCT) is still Chemotherapy-induced nausea/vomiting (CINV). It is shown that patients treated with HDCT associated with autologous SCT who was treated with standard antiemetic treatment plus a neurokinin-1 (NK-1) receptor antagonist significantly decreased vomiting among patients treated with HDCT and SCT. Patients undergoing SCT are at risk of malnutrition and it is known that well-nourished patients have faster recovery of the graft.

Aim: to increase myeloma and lymphoma patients experiece of security and safety during treatment in connection with SCT.

Methods: Sixtyfour patients, diagnosed with myeloma or lymphoma, undergoing treatment with HDCT conditioning before SCT between February 2017 and February 2019 were asked to take part in a studie aimed to increase patients experiece of security and safety during treatment in connection with SCT. Presented here at this conference are some of the factors in the study, nutritional status and CINV.

Results: Out of 64 patients 42 was treated outside hospital environment and 22 at hospital the entire treatment period. It seems that patients in this study suffer as much from nausea regardless treated outside hospital environment or at hospital. Result from 64 patients regarding chemotherapy induced nausea and vomiting (CINV) and nutritional support, parenteral nutrition (PN). In total 46 patients suffered from CINV and 44 patients needed PN. One difference was noted in this study, patients treated at hospital suffered more from vomiting than patients treated outside hospital (Table 1). Regarding nutrition status it seems that patients treated outside hospital environment could eat in a higher degree than patients treated at hospital entire SCT period even if they were re-admitted from having been treated outside hospital. They needed less Parenteral nutrition (PN) support (Table 1).

Conclusions: Discussion: Despite the knowledge from previous studies has patient diagnosed with myeloma or lymphoma and undergoing treatment with HDCT conditioning before SCT still CINV. It is not acceptable that although ASCO, NCCN, and MASCC/ESMO guidelines for the treatment and prevention of CINV share many fundamental similarities, literature is still missing surrounding emetic risk regimens. We need to perform further investigations and use the existing knowledge. It is encouraging to see that patients could be able to decrease the use of PN when treated outside hospital (Myeloma/Lymphoma) because we know that the best way to recover is food intake through the mouth.

Conclusion: We need to ensure that the patient receives the best care in stem cell transplantation.

Diagnoses (n=64, Myeloma** n=44, Lymphoma** n=20)	Treated outside hospital (M=32, L=10) Vomiting Yes/No* (%)‰	Treated at hospital (M=12, L=10) Vomiting Yes/No* ‰	Treated outside hospital (M=32, L=10) Nausea Yes/No* ‰	Treated at hospital (M=12, L=10) Nausea Yes/No* ‰	Treated outside hospital Parenteral nutrition (PN) (M=32, L=10) Yes/No* ‰	Treated at hospital Parenteral nutrition (PN) (M=12, L=10) Yes/No*‰
Myeloma (n=44, 32 outside hospital, 12 at hospital) Lymphoma (n=20, 10 outside hospital, 10 at hospital)	M, Y=9 (28) M, N=23 (79) L, Y=0 (0) L, N=10 (100)	M, Y=4 (33) M, N=8 (67) L, Y=3 (30) L, N=7 (70	M, Y=17 (53) M, N=15 (47) L, Y=3 (30) L, N=7 (70)	M, Y=6 (50) M, N=6 (50) L, Y=4 (40) L, N=6 (60)	M, Y=22 (69) M, N=10 (31) L, Y=6 (60) L, N=4 (40)	M, Y=10 (83) M, N=2 (17) L, Y=6 (60) L, N=4 (40)
Myeloma/ Lymphoma*** (n=64)	Treated outside hospital (n=42) Vomiting M/L Y=9 (21) M/L N=33 (79)	Treated at hospital (n=22) Vomiting M/L Y=7 (32) M/L N=15 (68)	Treated outside hospital (n=42) Nausea M/L Y=20 (48) M/L N=22 (52)	Treated at hospital (n=22) Nausea M/L Y=10 (45) M/L N=12 (55)	Treated outside hospital (n=42) Parenteral nutrition (PN) M/L Y=28 (67) M/L N=14 (33	Treated at hospital (n=22) Parenteral nutrition (PN) M/L Y=16 (73) M/L N=6 (27)

[Table 1. Results from 64 patients diagnosed with myeloma or lymphoma, undergoing treatment with HDCT conditioning before SCT.]

Disclosure: Nothing to declare.

NP024.

Retrospective Observational Study on the Transmission of Healtcare Associated Infections Among Neutropenic Patients within the Hematology Unit of Piacenza Hospital

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Background: Healt care-associated-infections (HCAIs) are infections that occur while receiving healt care and are one of the most dangerous complications in hospital unit like Hematology, where the patients are often neutropenic. In this healt care facilities, procedures have been drawn up such as protective isolation, feeding for neutropenic patients, environmental sanitation and patient hygiene, aimed at preventing HCAIs.

The aim of the study is the detection status of an infection transmission between infected/colonized patient and uninfected/uncolonized patient, following the move of one of the two patients to the other patient's room.

Methods: We conducted a retrospective, observational and monocentric study using a daily checklist for the data regarding isolated microorganisms, the patients' location in different rooms and rooms' sanitation. The data were collected daily by nurses on duty at Hematology unit of Picenza Hospital from February 2016 to February 2017.

A database was created for data processing and the correlation between infected/colonized patient and the infection of an uninfected/uncolonized patient was analyzed.

Results: 230 patients were included in the study, of whom 43.5% developed at least one infection during hospitalization. Of these, 7% contracted the same microorganism as the patient who previously occupied the same bed, while 12% developed the same infection of the roommate.

Conclusions: This data shows that, as is evident from the literature cited, the displacement of neutropenic patients within a ward should be done only as an exception, as it significantly affects the transmission of nosocomial infections.

It therefore appears that in Hematology Unit, which has almost entirely neutropenic patients in charge, all staff on duty must strictly and strictly adhere to standard and specific precautions, in order to minimize the risk of transmission of HCAIs.

Disclosure: Nothing to declare.

NP025.

Guide for Patients and Donors Before a Peripheral Blood Stem Cell Collection

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Background: In the Nursing Apheresis Chapter of Spanish Hematopoietic Transplantation Working Group (GETH), the need for providing both patients and donors with a clear and detailed explanation about Peripheral Blood Stem Sell Collection (PBSCC) arose. This was due to the fears, questions and lack of knowledge regarding apheresis procedures being the rule for people who arrived at our Apheresis Department.

This guide is the result of the cooperation between the apheresis nurses of several Spanish Public Health System hospitals.

Methods: The guide was undertaken in three phases.

In the first phase, the development team was formed. This team of apheresis nurses worked together and collected a lot of information related to patients' and donors' most frequently asked questions. A search of scientific literature related to these concerns was done.

In the second phase, working sessions where performed through videoconference, both in a successful and effective way. This allowed the sharing of information about our patient and donor concerns and how it was the best way to solve them.

Finally, in the third phase, the final document was prepared. Three main elements were considered: design of the guide, contents and structure. We decided to use the question-answer schema as the most didactic one. We formulated the questions which enable us to give a clear explanation on PBSCC procedure, from the beginning to the end, from hematopoietic stem cells mobilization, to their collection and infusion. We added answers to the questions and some pictures, in order to facilitate its understanding. We knew that, in order to assure patient and donor comprehension, we needed to be close to their language, as well as to create a visually appealing document and based on the best scientific evidence.

Results: The guide contains one foreword and ten sections, which include an introduction and additional information for patients and donors who want to learn more. It was reviewed by two nurses of the group who had not been involved in its writing. It was sent to GETH for edition.

The guide was edited by GETH in September of 2019. It has been showed at the Cart Nursing Meeting on October, the 17th of 2019 in Madrid.

Delivering the guide to our nursing departments started in October of 2019 and it has been very well accepted by our patients and donors.

Conclusions: Procedure explanation has value in decreasing patients and donors anxiety before PBSCC. Providing a written document, both rigorous and audience oriented, facilitates its understanding, at the same time it decreases anxiety and fear.

Future evaluation on patients and donors satisfaction will be needed to evaluate the effects of this guide. Because of this, we will ask them to answer a short satisfaction survey at the end of the event.

Disclosure: Nothing to declare.

NP026.

Systematic Review of Signs and Symptoms of the Human Herpes Virus 6 and their Assessment Tools

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Background: The Human Herpes Virus 6 (HHV6) has become a growing concern in the last few years between the hematopoietic transplant units. Encephalitis is among the more serious complications which is caused by a central nervous system (CNS) affectation.

Nursing plays an important role in the early detection of this complication due to its day to day intimate caring and contact with the patients.

The aim of this revision is to know and analyze the signs and symptoms related with HHV6 reactivation.

Methods: A systematic review was done by searching on the electronic databases PubMed, Embase, Scielo, Cochrane and Cuiden, with the following terms: ("Herpesvirus 6, Human" and "Herpesvirus 6") paired to ("Bone Marrow Transplantation", "Neurobehavioral Manifestations" and "Neurologic Manifestations"). In 30 database searches,

722 results were obtained, 118 studies were left after we narrowed the studies to those published in the last 5 years and duplicates were removed. After reading the abstracts 56 were selected, and through a comprehensive reading of these studies, 51 were included in the analysis, these studies were case reviews, cohort studies, retrospective and prospective studies.

Results: Through the in-depth reading of the articles, an association between the allogeneic unrelated donor transplantation [u1] and the HHV6 was observed, having even a greater association in the case of cord blood transplant. Symptoms begin generally within 2-6 weeks after the transplant, in some cases it may appear even later.

General symptoms include fever, rash, pain in specific dermatotoms[u2] that later extend to other ones, and bilateral lower limb pain. Disorders associated with the autonomic nervous system such as hypertension, sinus tachycardia or inappropriate diuretic hormone secretion syndrome may also occur. Within the symptoms related to CNS dysfunction we may find: the decrease in the level of consciousness, temporo-spatial disorientation, delirium, seizures, amnesia, decreased attention and concentration, and encephalitis.

Lastly, there are several scales used to assess the state of these patients, such as Glasgow scale, Delirium Rating Scale, or the WRAML scale.

Conclusions: We can conclude that the symptoms that could appear due to HHV6 are very numerous and varied in nature. It is essential to know all signs and symptoms, to also know the time frame in which they appear, as well as the correct scales of assessment to be used by the nursing personnel. In the future, we hope a multidimensional assessment tool could be created to apply to patients from the moment of transplantation to facilitate early surveillance and detection of HHV6 infection.

Disclosure: The authors report no potential conflicts of interest.

NP027.

Pain Assessment During Bone Marrow Biopsy Procedure and Bone Marrow Aspirate Procedure: A Specific Nursing Assessment

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Background: Pain described by IASP (International Association for the Study of Pain) is " a bad sensorial and emotional experience associated to tissue damage, real o potential, or described in terms of damage".

There are 3 different type of pain: acute, chronic, procedural.

Pain assessment, from a nurse point of view, is very important for the subsequent taking in charge of this symptom.

Both bone marrow biopsy and aspirate are invasive procedures.

Through bone marrow biopsy we obtain a marrow tissue sample that will be analyzed by histological techniques. On the other hand, bone marrow aspirate give us a blood marrow sample that will be analyzed with cytological techniques.

Due to the type of these procedures there is often a procedural pain associated.

This study consist of procedural pain evaluation performed by a nurse, both in bone marrow and aspirate.

The aim is to understand if there is a real correlation between pain and some factors that may affect it, to improve pain management and in order to achieve better outcome compared to the current ones.

Methods: We evaluated 45 patients of "UO Ematologia e CTMO - Ospedale G. da Saliceto- Piacenza", who have been subjected to one or both procedures between 20 August 2018 and 10 October 2018.

Data were collected by administration of an interview with a "Distress Thermometer" and a multiple choice questions.

This interview was done in 3 different moments:

Before the procedure: using "Distress Thermometer" and 3 multiple choice questions

At the end of the procedure: using 11 multiple choice questions

24 hours after the procedure: a telephone interview using the last multiple choice question.

Results: Data analysis showed us that the painful procedure is to be subjected to bone marrow biopsy procedure and aspirate at the same time.

Men are more sensitive to pain based on NRS scale. In each time point men's pain was 1 point higher then women's pain.

A patient performing this procedure the first time shows a higher pain level than the others.

At last we can say that the emotional area includes depression, fear, worry, most affects pain.

Conclusions: Study results have highlighted that pain is present during and after these procedures and there is correlation between pain and some emotional feelings.

Based on that results we have to review the current pain control procedures to improve patient welfare.

This is very important because, even for a short time, pain have a negative impact in patient's daylife.

Disclosure: Nothing to declare.

NP028.

Autologous Hematopoietic Transplantation in Systemic Sclerosis: Case Study

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Background: Systemic Sclerosis (SS) is a chronic inflammatory disease characterized by anomalous collagen deposition and subsequent fibrosis in various tissues. SS can occur at any age, being more frequent between 25 and 55 years, with higher prevalence in females. It is an uncommon disease and it is estimated that there are around 2500 patients in Portugal.

Objective: To make known the impact of autologous transplant on the quality of life of a patient with SS; highlight the nurse's role in the process.

Methods: Case Study

Results: Caucasian patient, 42 years, diagnosed with SS since 10/2003, with rapid and disabling progression since 2015. Undergoing several treatment lines, with no response. Personal history of unmedicated asthma and right carpal tunnel syndrome surgery.

Proposal for aHSCT on 06/2018.

Prior to transplantation, she was evaluated by the multidisciplinary team and be subjected to complementary diagnostic tests according to the clinical protocol. During the physiatrics consultation, an exercise plan was elaborated to improve the physical condition. In the pre-transplant consultation with low body weight, she had a nutrition consultation and started a hypercaloric and hyperproteic diet plan, having increased 6Kg before transplantation. In the nursing consultation, patient needs were identified and interventions planned, distress 1.

Made mobilization with cyclophosphamide and filgrastim, followed by collection of peripheral blood progenitor cells (PBPC) in a single day, without complications.

Admitted to the transplant unit on 12/10/2018, did conditioning with cyclophosphamide D-4 to D-1 and rabbit antithymocyte human immunoglobulin D-3 to D-1.

PBPC reinfusion in D0 with worsening nausea, abdominal cramps and mild tremors.

During hospitalization with the following complications: Neutropenic fever, G2 oral mucositis, G1 nausea and vomiting, and transfusion support with erythrocytes and platelets.

Aplasia output at D+13 and hospital discharge at D+14.

Post-transplant nursing consultation without complications. Transplantation consultation and autoimmune consultation.

Conclusions: The scale adopted in the autoimmune consultation is *Rodnan*, on which we can base ourselves to show the results. Before the transplant had *Rodnan* 20, 1 month after transplant straight improvement with *Rodnan* 12, maintained at 3 months, 6 months *Rodnan* 7 and 12 months *Rodnan* 5. The increase of quality of life was gradual but evident.

The patient's quotes as "I already have skin"; "I can already wash my back on my own" highlights the gains in quality of life.

Disclosure: Nothing to declare.

NP029.

Pain Assessment in Onco_hematological Patient Subjected to Central Venous Catheter Positioning (CVC) or Peripherally Inserted Central Catheter Positioning (PICC)

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Background: Pain is a multidimensional symptom that full involved the patient and for this reason requires a targeted assessment and a specific personal treatment.

The International Association for the study of pain, defines it like that:

"Un unpleasant experience, sensory and emotional, which associates a damage of our body, real or potential. Its characteristics don't depend only on the entity of the stimulus, of the site, of the general health status, but also it depend on the patient's emotional state and on the personal social and cultural experience.

This is an observation and perspective study, with the aim to evaluate procedural pain in patient subjected to central venous catheter CVC or PICC.

The purpose is to determinate if the pain symptom is present during this type of procedure and if so, to determinate if it is still present after 24 hours. It will be also a phone interview after 7 days to ask if that type of catheter is affecting everyday life.

Methods: All data were collected from August to October 2018 regarding 37 onco-hematological patients hospitalized at "Ospedale G. da Saliceto- Piacenza".

Patient characteristics: age≥18 years, good relational and cognitive skills, male and female.

A PICC was inserted to thirty patients, a CVC was inserted to seven patients, but in the time available we couldn't get a fair sampling.

This assessment is performed in 4 different moments: 15 minutes before the procedure, we give to the patient a "Distress Thermometer", to evaluate emotional patient's state, a "NRS scale" (numerical rating scale) to record if there is pain already present (dol.1). At the end of the procedure we give to patient the "NRS scale again" (dol. 2). After 24 hours from the procedure, through a phone interview there is a new pain evaluation using the NRS scale. (dol. 3). After 7 days from the procedures, through a phone interview, there is an evaluation regarding catheter impact in everyday life.

Results: The statistical results showed a median pain value: DOL.1à0.43 on CVC and 0.63 on PICC; DOL. 2à2.29 on CVC and 0.8 on PICC; DOL.3à1.29 on CVC and 0.5 on PICC

The phone interview performing after 7 days tell us that catheter affects mainly aspects concerning personal hygiene.

Conclusions: In conclusion we can say that the pain, even if in a slight way, is present during the procedure and at 24 hours from procedure for both central catheter type.

On NRS scale the value is higher on CVC.

Moreover the day life seems not to be particularly affected by the catheter.

It should be important to go on with this study to evaluate the chance to improve assistance or pharmacological interventions to bring pain to zero in NRS scale.

We also need to have a similar number of patient testes both for CVC evaluation and for PICC evaluation.

As final though, it will be useful to educate the patient to take care of catheter in a proper manner at home.

Disclosure: Nothing to declare.

NP030.

Tocilizumab Management in the Cytokine Release Syndrome

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Background: CAR T cell therapy is an antitumor treatment in which T lymphocytes are extracted from the patient's blood, being manipulated, expressing a specific cell receptor (CAR) that, by binding to a certain protein in cancer cells, works against them. The most frequent complication is the cytokine release syndrome (CRS), a systemic inflammatory response due to high levels of these, related to the activation and proliferation of T lymphocytes, causing different symptoms. The treatment depends on the gradation. In severe cases, a drug called Tocilizumab is used, is a protein obtained from specific immune cells, causing the action of a type of protein, interleukin 6, involved in inflammatory processes of the body and blocking it reducing inflammation.

Our main objective is to know what this therapy and CRS consist of, carring out the appropriate nursing care and know how to manage Tocilizumab and its adverse effects.

Methods: A prospective study was conducted from May 13 to October 15, 2019, a sample of seven patients undergoing this new therapy to treat diffuse large B-cell lymphoma (DLBCL) and multiple myeloma (MM) in progression at the University Hospital of Salamanca. A literature review of previous studies on CAR T cell therapy, Tocilizumab and its treatment was made. Before using the drug, it is important to check its expiration date, keep it in the fridge, follow the six verification steps prior to administration: correct medication, correct dose (8mg/kg), correct route, correct time, correct patient and registration. The drug is reconstituted and the prescribed dose is diluted in 100ml of 0.9% saline solution. It is administered alone, in one hour, monitoring the patient during and after treatment. Hand hygiene is essential, as well as prepare the drug aseptically and disinfect the bioconnector cap.

Results: In all patients, except one, Tocilizumab was used to treat CRS. In those diagnosed with DLBCL, will be administered if the fever persists for more than twenty-four hours despite broad-spectrum antibiotic therapy and an infectious process is discard. Tocilizumab is administered in patients with MM after the first febrile peak. It is important to control vital signs to know the gradation of the CRS. Depending on the clinical response, the dose of the medication can be repeated every eight hours with a maximum of three doses in twenty-four hours and a total of four doses. The symptoms are resolved at the time of administration but, in some cases, they may take longer. If, despite having used all the doses of Tocilizumab allowed, the patient does not improve, corticosteroids are indicated for three days, dexamethasone (10mg/6h) by bolus, decreasing dose by 20% every twenty four hours.

Conclusions: Modern antitumor immunotherapies require learning, knowledge of the new associated toxicities and specialized monitoring and management. Nursing work is essential in the early treatment of CRS and toxicities in patients undergoing this therapy, knowing how to prepare and manage Tocilizumab and being alert to any sign or symptom that may suggest complications, to reduce morbidity and mortality of therapies with CAR T cells.

Disclosure: Nothing to declare.

NP031.

Complications Associated with the Collection of Peripheral Blood Progenitor Cells

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Background: The collection of peripheral blood progenitor cells (PBPC) is usually described as a simple, uncomplicated procedure and there is not much literature about this subject. For this reason we feel the need to identify and quantify the complications associated with the procedure. We started its registration in a database on january of 2019.

Objectives: To know the incidence of complications associated with the procedure; optimize prophylactic measures.

Methods: Retrospective study and statistical analysis of all patients who collected PBPC from 1.01 to 16.09.2019.

Results:

Sample: 48 patients, out of 75 aphereses, 33 males and 42 females, aged 22 to 70 years, median of 57 years, were analyzed. Regarding the diagnosis: 52% MM, 21% NHL, 20% HL, 3% systemic sclesosis, 3% leukemia dendritic cels and 1% amyloidosis.

PBPC was collected by high throughput CVC in all patients and the cell separator used was *Spectra Optia*. It was predefined the processing of 3 volemia, with an average duration of 232 minutes, collecting 100-350ml of plasma and an average of 166ml of PBPC. Prophylactic oral calcium was administered initially as 3g (64%) effervescent tablets and the latter with 2g calcium carbonate (capsules). The most frequent identified complications were paresthesia (29%), diarrhea (13%), transfusion support (7%) and vomiting (5%). Paresthesia were reported by 22 patients, with onset between 40-230 minutes, most of them in the first 120 minutes, and predominant in females (73%). Only 5 patients required IV ion replacement because symptoms persist (23%). Diarrhea always occurred after the procedure, vomiting during the procedure, both only in patients receiving effervescent calcium. 3 patients needed platelet transfusion and 2 erythrocyte transfusion. Less frequent are CVC-associated complications, 1 patient with mild hemothorax resolving with symptomatic control, 1 hematoma and 2 CVC bleeding from the insertion site.

Conclusions: Based on the results we can conclude that prophylactic measures are effective support because only 5 patients required IV ion replacement. Changing the therapeutic form of prophylactic calcium to capsule was beneficial in the absence of nausea, vomiting and diarrhea. Maintain care with diet rich in calcium and other ions, as per leaflet.

Disclosure: Nothing to declare.

NP032.

Is it Worth Fighting Together for an Individual Access to a Medicine with a Non Reimbursement Decision? Yes it is!

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Background: Blinatumomab (Blincyto®), is a bispecific T-cell engager antibody approved by the European Medicines Agency as orphan drug in 2015 for adults with Philadelphia chromosome negative CD19+ relapsed/refractory B-cell Acute Lymphoblastic Leukaemia (ALL). It is one of the 54% orphan drugs authorised but not marketed in Spain. The reason for not funding, and therefore not marketing the product, was taken in 2017 and reaffirmed in April-2019 due to budget impact on the Spanish National Health System. Blinatumomab specific preparation and administration instructions to prevent errors, and its well-described adverse drug reactions (ADR), demand a well-trained team of healthcare professionals to maximise its benefits.

Methods: We present the case of a patient with relapse refractory B-ALL treated with blinatumomab focused on the administrative and clinical challenges encountered by physicians, nurses and pharmacists to obtain and manage the therapy.

Results: A twenty-nine year-old woman originally diagnosed with B-ALL in September 2017 in another centre was referred to our department in May 2019 with relapsed B-ALL (66% of blasts in the bone marrow). The disease was refractory to salvage chemotherapy (PETHEMA LAL-AR 2011; 80% blasts on day +29). Blinatumomab was considered best treatment option to rescue the patient and as a bridge to an unrelated allogeneic transplant. Inotozumab ozogamicin was ruled due to a very high-risk of veno-oclussive disease in a patient with liver dysfunction. There were no clinical trials (including CAR-T cells) available. Administrative procedures request and approval by the Spanish medicines agency to use blinatumomab took over four weeks. In the meantime, a team of haematologists, pharmacists, nurse manager along with the pharmaceutical representative, held a meeting to review the drug preparation and administration instructions as well as ADR to be expected, and arranged a training session for ward nurses on how to detect ADR and to stress the infusion safety issues to avoid errors. An explanatory guide was locally prepared. Blinatumomab was initiated at 9 μg/day on July 16th. After 4-5 hours, the patient presented fever, headache and

hypotension. On day +1 she was transferred to ICU due to Grade 3 cytokine release syndrome. The infusion was suspended 48 hours and reinitiated once the event was resolved. On day +7, dose was escalated to 28 μg/day. On day +8 Grade 1 neurotoxicity was detected, worsening to Grade 3 by day +12. The infusion was suspended for 72 hours, neurotoxicity decreased to Grade 1, and it was resumed at 9 μg/day with dexamethasone concomitant treatment. Dosing and ADR were managed according to SPC. Patient finally completed first course on August 18th. Bone marrow aspirate confirmed complete remission, undetectable minimum residual disease and full donor chimerism. Following salvage with blinatumomab, the patient successfully received an allogeneic cord blood transplant on September 25th.

Conclusions: Overcoming the difficulties to access non-reimbursed orphan drugs requires a team effort, in particular, for therapies with a challenging safety profile where nursing surveillance and care is critical to identify ADR. Our case also suggests that blinatumomab may offer patients with refractory B-ALL a bridge allogeneic transplantation and an opportunity for cure.

Disclosure: Nothing to declare.

NP033.

Symptoms of Elderly Patients with Multiple Myeloma Before and After Induction Chemotherapy

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Background: Multiple myeloma (MM) is a kind of plasma cell malignant tumor, ranking the second incidence of malignant hematological malignancy. It is frequently seen in the elderly and the median age of diagnosis is 66 years old. With the aggravation of population aging and the steady decline of MM related mortality, the number of elderly patients with MM will continue to rise in the next few years. It is necessary to pay more attention to the elderly patients with MM. Symptom is a very important part of patients' disease experience. It is the main reason for most patients to see a doctor. It can reflect the change of body function, independently predict patients' function, treatment defect and follow-up treatment effect. The goal of this paper is to investigate the different symptoms of MM patients, over 60 years old, during their induction treatment stage.

Methods: In this survey, 61 patients were retrospectively reviewed from August 1st 2017 to August 31st 2019, and recorded the frequency of different symptoms, which they complained during their first stage of treatment.

Results: MM patients who were over 60 years old often sought medical advice because of pain in some part of their body (accounting for 49.18%), fatigue (accounting for 19.67%) and foam urine (accounting for 19.67%). During their first stage of treatment, the common symptoms were pain (accounting for 57.38%), fatigue (accounting for 40.98%) and constipation (accounting for 36.07%). The symptoms of diarrhea, numbness of hands and feet, loss of appetite, dizziness and cough were all over 20%, which happened after two or three times chemotherapy.

Conclusions: In this investigation, all the 61 patients received 1~5 courses of standard induction chemotherapy, with 2 or 3 kinds of regimes (including Bortezomib, immunomodulatory drugs and Dexamathasone) in their first stage of treatment. Pain was much more frequently complained after chemotherapy. The reason was probably that the patients were seriously suffered by MM, rapid progress of disease or the side effects of regimes. The insufficient improvement of fatigue in elderly patients may be caused by over age, weakness of physical condition and continuous chemotherapy. More than 1/3 of patients with constipation are in relation to medication. It was also found that patients had weight changes before and after treatment. Nearly half of the patients had weight loss which was related to their underlying disease. Most of the elderly patient not only have multiple myeloma, but also carry a variety of basic disease such as hypertension or diabetes. Therefore, it is possible that the symptoms of multiple myeloma are not prominent and often manifested as other more common symptoms, such as pain and fatigue in the long-term course of the disease. In addition to the physical symptoms, elderly patients with chemotherapy might have psychological pressure, because of anxiety or depression for illness, treatment costs, lack of disease-related knowledge, etc. While caring these patients, we should consider all kinds of symptoms seriously and seek good ways to alleviate the symptoms to improve their quality of life.

Disclosure: Nothing to declare.

NP034.

Evaluation of a Preventive Skin Care Protocol in Pediatric Allogeneic Hematopoietic Stem Cell Transplantation Patients Receiving Thiotepa

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Background: Thiotepa is an important part of the conditioning regimens for pediatric allogeneic hematopoietic

stem cell transplantation (HSCT) patients, including hemoglobinopathy and immunodeficiency patients. Thiotepa is partly excreted via the skin and may cause skin discoloration, pruritus, blistering, desquamation and peeling, most frequently in skin folds and under dressings. This cutaneous toxicity may result in discomfort during transplantation. Therefore a quality improvement plan on skin care was initiated with the aim to reduce thiotepa-induced cutaneous toxicity in pediatric HSCT patients.

Methods: Based on the literature and company, a preventive skin care protocol was developed and implemented in March 2019. Implementation consisted of educational sessions focused on the protocol, supported by mailings and bedside teaching. The intervention included showering three times a day, avoidance of any skin products and changing of clothes, bedsheets and dressings. In order to evaluate the effect of the skincare protocol on the occurrence of cutaneous toxicity, a retrospective analysis was performed on a cohort of 29 patients that received thiotepa as part of their conditioning regimen for allogeneic HSCT between April 2018 and April 2020. Patients treated before implementation of the preventive skin care protocol were compared to patients treated after implementation of this protocol. Descriptive statistics were used to describe the percentages/numbers of diagnoses, donor types, (duration of) skin problems, occurrence of pruritus, consultations of dermatologists, skin biopsies and time to onset of skin problems. Data were analyzed using likelihood ratio tests.

Results: A total of 29 patients was evaluated before and after implementation of the protocol: $n = 20$ in the control group and $n = 9$ in the intervention group, see table 1. 85% of patients in the control group suffered from skin problems as compared to 56% of patients in the intervention group ($p = 0.095$). A total of 38 separate skin problems were documented in a total of 22 patients, with a tendency towards a reduced number of 'skin problems per patient' in the intervention group as compared to the control group. Particularly in the period shortly after conditioning (day -5 until day +28), there was as significantly reduced incidence of documented skin problems in the intervention group as compared to the control group. Moreover, late occurrence of skin problems (after day +28) was significantly reduced in the intervention as compared to the control group ($p = 0.008$). The intervention group showed a significant earlier clinical recovery as compared to the control group ($p = 0.041$).

Conclusions: These data show a clear tendency towards a reduced incidence, a reduced number of thiotepa-induced skin problems per patient as well as a shorter duration of the skin problem in patients that received the skin care protocol. A significantly reduced incidence of skin problems was documented in the first month after stem cell infusion, the time frame in which thiotepa-induced skin toxicity most likely occurs, pointing to a true contribution of our preventive skin care protocol to reduced cutaneous toxicity of this drug. More patients need to be evaluated in order to conclude on the effectiveness of the intervention and to further reduce skin toxicity.

Clinical Trial Registry: NA

Disclosure: Nothing to declare.

NP035.

CAR-T: The Dutch Pediatric Nursing Experience

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Background: In April 2019, the Princess Máxima Center for Pediatric Oncology started with Chimeric Antigen Receptor-T cell therapy (CAR-T). Until now ten patients, in the age of four to twenty-one, have been treated with CAR-T cells, for recurrent/ refractory B cell malignancies. CAR-T cells are autologous, cultured T cells with artificial chimeric antigen receptors that recognize and fight cancer cells. T cells are extracted from the patient via leukapheresis and reprogrammed in a laboratory. Re-infusion takes place after a conditioning with Fludarabine and Cyclophosphamide to achieve lymphocyte depletion.

Caring for patients who receive CAR-T treatment is a new experience for pediatric oncology and intensive care nurses. The challenge was to get well-trained nurses before start of treatment. To provide nursing guidelines, a protocol was developed, describing care from leukapheresis till discharge. The two most common complications are Cytokine Release Syndrome (CRS) and the Neurotoxicity Syndrome. Recognizing these complications is essential in providing good care for the patients.

The first ten days after re-infusion, the patients are admitted to the hospital. Vital parameters are checked, using the Pediatric Early Warning Score (PEWS) and a CAR Toxicity score list, which is age-related. How to react when complications occur, is described in the CRS and CAR-T cell related encephalopathy syndrome (CRES) guidelines. These are used by both doctors and nurses.

Methods: Four key points about the experiences of caring for these patients emerged from a first survey amongst pediatric oncology nurses.

Results: *1. Anxiety about the new treatment*: Caring for patients receiving a new treatment always gives nurses a certain tension due to uncertainty over what to expect. So far, CAR-T treatment appears to be relatively uncomplicated, with four patients suffering CRS, two of which were admitted to the intensive care. This is partially explained by a low tumor load in the patients treated thus far. This increases the risk of underestimating the complexity of caring for these patients leading to more flexible guidelines.

2. *Patient information and regimen*: Limited patient information is available about the procedure of CAR-T treatment leukapheresis, re-infusion and regimen during clinical admission and discharge.

3. *Use of CAR Toxicity score list*: Although patients appear to have less complications, vital parameters and CAR Toxicity score list must be performed several times a day, also during night-time. The continuous repetition of these questions generates resistance by patients, also patients learn these questions by heart. This leads to a discussion about the validity and frequency of performing these checks around the clock.

4. *Young adults in a pediatric hospital*: Caring for young adults in a pediatric hospital requires a different approach. Respect of independence and self-management is important, ignoring this can lead to conflicts.

Conclusions: Nursing care of children and young adults who receive CAR-T treatment has so far proven easier than expected. Caring for young adults requires a different approach. The experiences gained have contributed to the development of patient information. However adequate observations remain important to offer safe care. Nurse specialists can fulfil a task in this regard.

Disclosure: Nothing to declare.

NP036.

Substitutive Therapy with S.C. Immunoglobulins in Pediatric Hsct Receipients: A Single Center Experience

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Background: In the past immunoglobulins were exclusively infused i.v. with a good clinical efficacy, but with some concern as the need to find a vascular access, the time needed to complete the infusion, for the child and his family, since this requires few hours. Moreover this approach can be realized only with an hospital admission and adverse reactions are not rare.

Recently immunoglobulin administration to treat the above mentioned pathologies can be realized subcutaneously: This approach not only has a similar efficacy as compared with i.v., but after a complete training can be realized at home with less discomfort of the child and his family. Adverse events are milder after s.c injection, and in relation of the site of injection (burning and skin irritation). The cost analysis demonstrate that s.c. administration is less expensive since doesn't require hospital admission.

In our centre we started to use this approach also in children undergoing HSCT who require immunoglobulins administration for a period of time ranging from average to long.

Methods: The choice of the candidates to receive s.c. Ig depends on the compliance of the child and the family.

Then is critical to train them on the amount and the route of administration being at home and the possible side effects.

First injections normally are realized in hospital showing the procedure to the caregiver that, thereafter, will administer the injection under supervision of the nurse responsible of the training pathway.

At the end of the training when complete autonomy is reached and there is evidence of proven capability to administer the compound, the caregiver will be allowed to act at home.

Results: In out Center 3 children were enrolled from June 2018 all affected by severe combined immunodeficiency (SCID) who underwent HSCT with no reconstitution of B cells. After being treated by i.v. Ig, at a mean age of 4 years, after training lasted 5 months, they received monthly injection of s.c. immunoglobulins at the BMT outpatient.

No adverse reactions were reported apart a mild local irritation that spontaneously disappeared in only one of the three patients.

After positive evaluation of the training nurse the procedure can be realized at home.

For the type of immunoglobulins utilized, for the first injection s.c. is 4 weeks after the last i.v. infusion, to be repeated every week checking the serum levels, thereafter subsequent injection are administered every 4 weeks.

Conclusions: Injection of immunoglobulins s.c. is safe and effective.

The very low incidence of adverse reactions is less relevant as compared with autonomy of the child and his family. Moreover this is economically more convenient and time-saving.

The experience of our Center, despite 'the low number of enrolled children, is positive both because it is efficacious and because of the satisfaction of the families.

We hope, in the near future, that this approach will be become more familiar in transplanted children so to allow a multicentre study to evaluate clinical efficacy.

Disclosure: Nothing to declare. for all authors.

NP037.

Pediatric Photoaphaeresis: The Dilemma of Vascular Accesses

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Background: GVHD is one of the biggest causes of morbidity and mortality in long-term survival patients after HSCT.

Studies so far on the use of Photoaferesis in the treatment of GVHD aimed to treat unresponsive or relapsed patients after multiple lines of immunosuppressive therapy. The results obtained are encouraging in terms of effectiveness.

In children, the main difficulty is to get a lasting vascular access that allows tto go safely home with itt

between sessions, but at the same time, ensuring the feasibility of the procedure.

Our experience shows how it is possible to perform Photoaferesis in paediatric age through the use of a long-term central, high-stay central venous catheter, inserted in an anonymous vein

Methods: We present the case of a one-year-old girl with β Thalassemia Mayor diagnosed in the prenatal era, undergoing HSCT from phenoidentical HLA family donor (father).

After one year a second transplant was needed from the same donor due to progressive lost of the graft.

Three months after the second TCSE, a grade I skin GVHD treated with immunosuppressant and corticosteroid appears with a favorable outcome.

Grade II skin GVHD reappared after 9 months from previous treatments not responsive to ant drug thus requiring photoapheresis.

The procedure is performed twice a week for the first 4 weeks and then twice every 15 days until the GVHD is resolved.

The patient, who was two years old at that time, needed two vascular accesses to perform the procedure, the venous assets were poor and to allow him to go to his home between sessions a CVC POWERLINE ®(BARD has joined BD -C.R. Bard) 5 fr. was inserted.

Results: The device chosen to perform the procedure during the Photoaferesis sessions did not give problems, as the equipment used during the procedure did not report difficulties either during the suction phase.

The central venous catheter used didn't present complications related to its use and management (thrombosis, occlusions, infections).

The patient and his family have well tolerated the device both in the hospital and at home.

Conclusions: The CVC Powerline 5 fr in an anonymous vein can be a good alternative, both for the caliber and for the duration, for all those patients of paediatric age who do not have a good venous heritage and who need to perform the procedure of a large caliber venous access.

Disclosure: we have use this device but there isn't conflict of interest between us and the company.

NP038.

Totally Implantable Vascular Access Devices Rupture in Hematopoietic Stem Cell Transplantation: Prophylaxis and Treatment

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Background: In case of clinical need for long-term monitoring and complications treatment after hematopoietic stem cell transplantation (HSCT), implantable venous port catheter (PC) or peripherally implantable central venous catheter (PICC) can be used, which significantly improve patient's quality of life by providing safe and multiple adequate vascular access. However, when working with PC/PICC there is a risk of rupture and migration of the distal catheter part into the vascular system. Nurse's comprehensive knowledge and timely actions can help for early diagnosis and prevention of severe complications in the case of mechanical damage of totally implantable long-term venous access devices.

Methods: From 2015 to 2018 in children and adults after HSCT, using operating room, ultrasound navigation and x-ray control, 484 totally implantable long-term venous access devices were installed: 30% ($n = 145$) PC and 70% ($n = 339$) PICC. In PC implanting for the prevention of catheter detachment and PINCH-off syndrome in 99.2% of cases ($n = 480$) jugular venous access was used and only 0.6% ($n = 3$) - subclavian and 0.2% ($n = 1$) - femoral. Single-chamber PC (BBraun) of different diameters, implanted subcutaneously, consisting of a polyurethane catheter, a titanium chamber in a plastic shell with a silicone membrane for blood sampling and drug administration were used. PICC (Bard) implantation was performed through the shoulder veins - v.basilica or v.cephalica. Two types of PICC were used: silicone with a distal antireflux three-position valve (Groshong type); single- and two-way polyurethane high-flow catheters with a proximal three-position antireflux valve. To prevent infectious and thrombotic complications, a "heparin plug" (heparin solution or taurolidine solution) was used, which was changed every 4 weeks for PC and every 5-7 days in case of PICC or after each case of PC/PICC use. Huber needle placement duration did not exceed 7 days. Nurses had passed training for PC/PICC management: skin features in catheter area; the

presence of venous reflux and its abnormalities; compliance with doses, volumes and timing of solutions/drugs administration; Huber needle installation technique and duration control; the attending physician notification in the case of any impairment.

Results: Rupture of the distal part and the migration to the right ventricle was revealed in 2 patients with PC (2.07%) and 3 patients with PICC (0.9%) - four children (4-10 years, median - 9 years; diagnosis: Wiskott-Aldrich syndrome, aplastic anemia, acute lymphoblastic leukemia ($n = 2$)) and one adult (24 years, diagnosis - Hodgkin's lymphoma). The duration of catheter days prior to PC/PICC removal was 205-840 days, median - 393 days. The diagnosis was based on the absence of venous reflux, chest x-ray data. Timely diagnosis and treatment allowed avoiding hemodynamic, infectious and thrombotic complications. The migrated part of the catheter in all patients was removed by percutaneous endovascular method through femoral venous access without any complications.

Conclusions: Nurses teaching program for PC/PICC operation and vigilance to rare complications in patients with HSCT is of major importance in the prevention and diagnosis of complications, including totally implantable long-term venous access devices rupture. Percutaneous endovascular removal of PC/PICC fragment using x-ray control is a safe method of treatment.

Disclosure: Nothing to declare.

NP039.

Use of Volumetric Pumps for the Infusion of Hematopoietic Stem Cells as a Standard Method in Pediatric Patients

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Background: Nursing team are the responsible for the administration of hematopoietic stem cells in hematopoietic stem cell transplant (HSCT) units. The administration procedure to the patient must be safe in order to reduce the possible cellular damage to the stem cell infusion pouch. The infusion is usually perform by gravity (drip) through a central venous catheter. This can leads to a slow administration, which is an unreliable and unsafe practice for the patient. The aim of this study is to evaluate the safety of the infusion of stem cells using a volumetric infusion pump.

Methods: A retrospective and descriptive design to evaluate the safety of using infusion pumps in allogeneic hematopoietic stem cell transplantation, from 2016 to 2018 in two University centers in Barcelona, Hospital Sant Joan de Deu (HSJD) and Hospital Sant Pau (HSP). Data were obtained from medical records through a non-probability sampling: age, stem cells source (Bone marrow (BM), Peripheral Blood (PB) and/or Umbilical Cord Blood (UCB)), infusion methods, platelet and neutrophils engraftment day. The statistical analysis was carried out using Windows Excell.

A total of 40 patients were included into the study (HSJD: 20; HSP: 20).

Results: There were no differences in the platelet and neutrophils engraftment day between the two infusion methods (drip vs pump) and regardless the type of stem cell source (BM, PB or UCB).

The expected time of engraftment is related to a suitable cellularity, but it can also be different depending on the stem cell source. BM source engraftment is expected to occur between days +14 and +21. However, PM source engraftment is expected to appear around days +10 and +14. We did not find any differences in the engraftment time between those patients who received stem cell drip infusion or a volumetric infusion pump one taking into account the expected differences depending on the stem cell source.

Conclusions: The use of a volumetric infusion pump as a standard method does not interfere with engraftment of HSCT.

Disclosure: Nothing to declare.

NP040.

Pediatric Patient Transfer from a Tph Ward to Icu: How can we Improve our Communication?

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Background: Systematic and organized patient handoff guarantees patient safety and quality in the continuity of care improving the exchange of information between the staff. Since the opening of our HSCT Unit in the year 2016 patient transfers to the Intensive Care Unit have been frequent, due to their clinic instability.

With the goal of improving the information transfer and to improve the quality of care, in 2018 the transfer protocol was reviewed to standardize it. Tools were developed regarding the care of the central venous catheter, specific patient written information, a written medication administration list and the implementation of the IDEAS information method. Since implementing these changes, and without a study of its effectiveness, calls from the ICU

nurses during the admission in this unit have been frequent to demand information.

The aim of this study is to detect areas of improvement in the exchange of information, to provide a safe and effective transfer as well as to detect knowledge and training gaps within the ICU nursing team.

Methods: Transversal and descriptive study. The participants were 21 volunteers ICU nurses who have taken a handoff from a HSCT patient or were involved in the care of these patients. An ad-hoc survey which analyzes their perceptions in regard the transfer of the HSCT patient and family, their knowledge and training related to HSCT patients and their perceptions of elements of improvement in the patient transfer.

Results: The mean age was 32 years, 86% of them had postgraduate studies and all of them have only worked on pediatrics (42% only in ICU and 58% in neonatal intensive care unit, emergency room and hospitalization) and have spent a mean of 8,6 years working in this pediatric ICU.

57% have received a transfer from a HSCT nurse and from them 66% consider it an adequate transfer. There's a lack of information on the nursing care plan and alarm symptoms and signs (only 36% have received this information). 41% didn't receive written information.

Around 90% reflected that they had deliver IC to onco/haematologic patients before, had easy access to a HSCT nurse, knew about the care of the central venous catheter and common complications after HSCT. 52% had a gap of knowledge in the HSCT most common medication and 66% didn't receive information from the referring HSCT doctor.

Conclusions: Weaknesses regarding our transfer protocol have been noticed in the areas of: implementation of the IDEAS method, written information, knowledge and training gap regarding the medication of this patients and handoff from the referring HSCT doctor.

This study has been described a positive appreciation in regard to their care with HSCT patients, 100% of them consider necessary education in HSCT and have proposed many initiatives to improve the patient transfer and knowledge in HSCT. A workgroup would be developed to achieve our objectives.

Disclosure: Nothing to declare.

NP041.

Caring for Minor Sibling Donors

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Background: Hematopoietic Stem Cell Transplantation is a standardized treatment for a large number of hematological, malignant and non-malignant diseases. The number of allogeneic transplants performed related and unrelated is in continuous growth, the latter being higher. In Pediatrics, donation among siblings represents 40%.

According to a recent EBMT estimate, approximately 600–700 children in Europe become HSC donors for their siblings every year being bone marrow (BM) the standard source for transplantation and it is perform by multiple BM needle aspirations. The most frequent complication was pain reported at the collection site, including lumbar stiffness, requiring the administration of analgesics, However, peripheral blood stem cell (PBSC) collection by apheresis after G-CSF stimulation has been used increasingly in recent years. PBSC is considered less aggressive, but not free of risks. G-CSF is administered by subcutaneous injections and muscle/bone pain, headache, abdominal pain, or back pain was reported PBSC donation requires the donor to undergo apheresis, potentially with central venous catheter (CVC) placement under general anaesthesia.

Regarding the psychosocial status there were not standardized assessments of the donors before and after the procedure (an important issue when a young child donates to a sibling who may not live).

Methods: General objectives: To standardize emotional attention to minor donors and Specific: Recognize minor donors in the treatment process of their siblings.

Support parents with the emotional dilemma of submitting their healthy child to a procedure not free of risk

Minor donors are informed of the procedure according to their age. An information brochure has been designed which is delivered to them during the interview. If the recommended procedure is Bone Marrow Transplant, to facilitate family organization, admission is made in the Transplant Unit, for pre- and post-surgical care with health education at discharge. When the cell collection is Peripheral Blood, it is done in the Apheresis Unit. In both cases and at the end of the procedure, the child is given a To the brave "For the best donor" diploma with mention of the effort made, accompanied by a gift appropriate to their age.

Results: In the last 3 years, 60 hematopoietic transplants, 31 autologous and 29 allogeneic transplants have been carried out in our unit, 13 of which were donations among siblings (4 MO and 9 SP).

Conclusions: Psychosocial status assessment of the donor before and after the procedure (an important issue when a young child donates to a sibling who may not live) should be standardized.

Disclosure: Nothing to declare.

NP042.

Early Recognition of Pediatric Gvhd: Education and Awareness Amongst Nurses

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Background: As a new hospital, founded in June 2018, much focus was put into forming a coherent team of nurses using the same methods and protocols. Personnel was recruited from different hospitals and new methods and protocols had to be implemented.

At the stem cell transplantation unit optimising the GvHD protocol is considered a priority for the nursing staff. As early recognition of GvHD increases successful treatment considerably, a universal method of observation and registration for nurses is likely to contribute. Due to the variety among the new nursing staff, there seems to be insufficient awareness and knowledge about the manifestations of GvHD and the different stages.

Our goal is to investigate whether there are any tools or methods available to help nurses to recognize GvHD of the skin in an early stage.

Methods: To investigate which methods are used in other pediatric oncology centers, information was collected by interviewing nurses from several international centers.

By distributing a questionnaire among the personnel of the transplantation department of the Prinses Maxima Centrum, we aimed to get a good view on the needs of the nurses and on the feasibility of new methods.

Results: Observation of GvHD is in all hospitals mentioned an important task of the nurses. None of them use an observation list or other tool for observation. All hospitals focus on education of their personnel to recognize GvHD. Internationally, education of nursing staff about GvHD manifestation was considered the most crucial factor for early recognition of GvHD.

The questionnaire distributed among the nurses of the Prinses Maxima Centrum resulted in 19 responders out of 53. An observational tool, like a score was overall not considered the preferred method for everyday practice. Rather, they would prefer a clear protocol on how to recognise and monitor clinical manifestations of GvHD.

Discussion: Several international hospitals responded to our question on what kind of observation method they use. They all indicate that education and awareness is the most important element in early observation of GvHD, none of them mention observation tools..

When we started our questionnaire, we expected nurses would prefer working with an observation list. Instead, we found that nursing personnel are not in favor of filling in additional scoring lists. In our view, better awareness on early recognition of GvHD manifestations would be the more favorable alternative.

Conclusions: Good education is an important element in early observation of GvHD. In het Prinses Maxima Centrum, nurses ask for clear protocols and methods. These will be most effective if they are designed with the observational task of nurses in mind. Combined with awareness they could contribute to early recognition and proper monitoring of GvHD in a pediatric setting.

We call for extra education for awareness amongst nursing personnel of development and manifestations of pediatric GvHD.

Disclosure: Nothing to declare.

NP043.

Risk Assessing Paediatric Patients' Nutritional Needs Prior to Bone Marrow Transplant

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Background: It is well known that patients who require a Bone Marrow Transplant (BMT) are at high risk of developing malnutrition and require nutritional support (1). During conditioning treatment, a patient will receive intensive chemotherapy leading the patient to develop complications such as nausea and vomiting, mucositis, anorexia and taste alterations (2). Enteral Nutrition (EN) can be achieved via a Nasogastric tube (NGT) or a gastrostomy if nutrition cannot be tolerated by mouth. EN is recognised as a first line support to help maintain gut function, but where this is not tolerated parental nutrition can be offered (PN) (3). Traditionally NGT's are the preferred route for EN, they can be inserted easily, and patients can be discharged with an NGT if required for medications or nutrition. PN can potentially prolong hospital stay or increase risk of infection (4). Identifying and using an appropriate assessment tool could help recognise challenges around EN in children undergoing a BMT.

Methods: Case study: The patient is an 8-year-old boy with relapsed Acute Myeloid Leukaemia. He underwent a 9/10 stem cell transplantation. His conditioning included Busulfan and Cyclophosphamide. Post-transplant complications included severe haemorrhagic cystitis. Prior to this, the patient had low mood which worsened with the cystitis and he also struggled with the isolation policy.

Before his admission for his BMT, the patient spent time with a play therapist in order to help with the preparation of an NGT which was inserted on day 0. The patient found this

particularly traumatic, never having had one before. At day +2 NG feeds were commenced, refusal of NG feeds started at day +5. By day +6 the NGT was displaced due to vomiting and consequently the patient received PN as NGT re-insertion was refused. The discussions around NGT re-insertion was complex due to the patient's emotional response, he remained on PN.

Results: The patient did not have any EN post loss of NGT and refused to eat hospital food. To date he has been receiving PN for 58 days and eaten little by mouth. He has complained of Gastroesophageal reflux.

His weight on admission was 56kg and he now currently weighs 53kg.

Conclusions: Nutrition is an essential requirement for children undergoing a BMT. After discussions with members of the multi-disciplinary team (MDT), it was felt that a HNA would be implemented during patient 'work-up' to help identify behavioural and nutritional needs prior to transplant. The transplant clinical nurse specialist will carry out the HNA or co-ordinate the dissemination of the HNA to referring centres prior to work up to allow for early interventions. Research around effective approaches for nutritional support for children after transplant is limited but using the HNA to identify those at risk would allow the right support for parents and patients to make informed decision about nutritional support. To assess this, the HNA will be audited after 1 year to evaluate parents and patient's preferential choice of delivering EN.

Disclosure: Nothing to declare.

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