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ABSTRACTS COLLECTION

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Data management group poster session

P187.

Gender disparity in autologous HSCT; fact or myth? A BSBMTCT registry study looking into possible male predominance in HSCT particularly in multiple myeloma

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Background: Working with data from 53 member centres across the UK and Republic of Ireland (RoI) the BSBMTCT Senior Data Management team noticed there appeared to be a male predominance in autologous transplants for Multiple Myeloma (MM). A report was run in ProMISe during October 2020 spanning over 3 decades worth of data for autologous and allogeneic transplants. It revealed that MM was the most transplanted accounting for 28% (23,566 after exclusions) of the total number of transplants in the database. Out of these autologous transplants 63% (14,714) were in men and 37% (8852) in women. These figures show that MM is the BSBMTCT Data Registry's biggest indication to treat and figures for autologous transplants for MM in men are higher.

Methods: After running reports in ProMISe looking at transplant data, we then ran a report to look at the number and gender of MM patients in ProMISe. We also researched publications to ascertain if Genetics and Epidemiology played a role.

Results: We looked at the findings from our report for MM patients recorded in ProMISe from 1986 to November 2020:

- After exclusions there were 18,433 MM patients, 62% (11,375) were Men and 38% 7058 women.
- The number of patients alive and in remission were 4164 men and 2818 women.
- The number Patients alive after relapsing were 2582 men and 1569 women.
- Median survival for men was 6y 9m and for women 7y 3m.
- Median progression free survival was 2y 6m for men 2y 9m for women.

Genetic changes can impact the incidence of some cancers, it is known there are 800 genes on the X chromosome. In women the second X chromosome is switched off in the embryo, but, some 50 genes remain active. In an article "A reason why cancer is less common in women" (Harvard Magazine 2017) Dr Andrew Lane states that it is these extra 50 genes that remain in the female that could make the difference in gender disparity. He concludes that of the 800 genes, 6 of these mutated more frequently in men than women. The most common form of MM is Hyperdiploidy MM. This is the gain of multiple odd numbered chromosomes and is

more prevalent in men than women. The reasons for this are still unclear but the article suggest that these gender disparities could be influenced by a variation in genes which are situated on the sex chromosomes or by hormonal differences.

There was very little evidence to suggest epidemiology played a role in gender disparity for MM other than obesity and gender. There are more Autologous transplants in men, partly because there is a higher incidence in men. I would be interested to see more research in this area.

Conclusions:

- The BSBMTCT data shows that MM is the biggest indication for autologous transplants and shows a gender disparity.
- Women do slightly better after having an autologous HSCT then men.
- Genetics do play a part.

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