

useful scoring system in conjunction with a thorough history and clinical examination.

References:

¹ **Samuel M**, Paediatric appendicitis score *J Pediatr Surg* 2002;**37** 877-81

² **Goldman R**, Prospective validation of a paediatric appendicitis score. *Acad Emerg Med* 2005; **12** (suppl 1):20.

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MULTI-CENTER VALIDATION OF THE CLINICAL DEHYDRATION SCALE FOR CHILDREN

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Introduction: Dehydration is an important complication for sick children. The Clinical

Dehydration Scale for Children (CDSC) measures dehydration based on four clinical signs.

Objective: Evaluate the correlation between the CDSC categories and markers of dehydration in children aged 1 month to 5 years visiting an emergency department (ED) for vomiting and/or diarrhea.

Method : An international prospective cohort study performed in three pediatric ED in 2009. Participants were a convenience sample of children aged 1 to 60 months presenting to the ED for acute vomiting and/or diarrhea. Following triage, a research nurse obtained informed consent and evaluated dehydration using the CDSC. A few days after recovery, another research assistant weighted participants at home. The primary outcome was the percentage of dehydration calculated by the difference in weight at first evaluation and after recovery. Secondary outcomes included proportion of admission, intra-venous use and inter-rater agreement. Sample size was estimated to have at least 10 participants in each CDSC categories.

Results : During the study period, 251 children were recruited and information regarding weight and dehydration scores was complete for 206 (82%).

According to the CDSC, 59 had no dehydration, 132 some dehydration and 14 moderate/severe dehydration. On logistic regression, the CDSC categories were predictors of severe dehydration, intra-venous re-hydration and hospitalization (p < 0.01 for all). Good inter-rater correlation was measured among participants (linear weighted Kappa score of 0.65 (95%CI 0.43-0.87)).

Conclusion : CDSC categories correlate with markers of dehydration for young children complaining of vomiting and/or diarrhea in the ED.

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DIVERTING PATIENTS FROM A PAEDIATRIC EMERGENCY DEPARTMENT TO PRIMARY CARE - DOES IT WORK?

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Background: Alder Hey Children's NHS FT has a dedicated Paediatric Emergency Department (ED) with an annual attendance of 60,000 children.

Previous work has shown that 71% of attendances (injury and illness) are non urgent cases. This places a large patient burden on the department.

The ED and the Primary Care Trust (PCT) were aware that there were a large number of children who could be seen more appropriately in a local primary care setting.

Methods: Access to the PCT appointments system (EMIS) was established in the ED and staff were trained in its use.

Liverpool GP practices were contacted to sign up to the project.

Inclusion and exclusion criteria for patients were jointly agreed by the ED and the PCT.

Triage nurses at the ED were coached in approaching patients for diversion and arranging their appointment.

Results: Since January 2010, over 1000 patients have been offered an appointment at their GP practice from the ED.

The majority have refused. 16 patients (1.6%) have accepted the offer and avoided an ED visit.

> 40% of patients had been sent by their GP to the ED and so were not eligible, although they fulfilled all other criteria.

Conclusions: Although some parents choose to come to the ED, many patients have been told to attend by their GP.

Most parents wished to remain in the ED.

These results may reflect a lack of confidence by families in their GP, or a lack of knowledge of paediatrics in primary care.

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TRANSFUSION REQUIREMENTS IN PAEDIATRIC TRAUMA: A SINGLE CENTRE EXPERIENCE

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Aims: To describe the transfusion requirements in children following major trauma.

Methods: We retrospectively analysed the local paediatric trauma database of all children following trauma call activation on arrival to the Emergency Department in a major urban trauma centre in London. We studied over a period of 15 months, May 2008 - August 2009. We defined massive transfusion as packed red cells >40ml/kg in the first 4 hours or >80ml/kg in the first 24 hours.

Results: 227 children presented to the Emergency Department following major trauma call activation. Twenty-eight (12.2%) children were transfused within the first 24 hours, of which 13 were massive transfusions. Majority (23) were males. Blunt trauma occurred in 22 and penetrating injury in 5. The median Injury Severity Score (ISS) was 28 (IQR 39). Majority (22) required surgical interventions and 2 underwent embolisation of major vessels.

Of the 28 transfused patients, 15 (54%) patients received packed red cells alone and 13(46%) received various combinations of additional blood products (Fresh Frozen Plasma, platelets and Cryoprecipitate). However, no patient received the ratio of blood products of RBC:FFP of 1:1 as practised in adult trauma. Majority (16) did not have either pre or post-transfusion blood tests done. Post-transfusion coagulopathy was observed in 2 patients.

Ten deaths occurred in the transfused group of which 8 (80%) received massive transfusion.

Conclusions: Massive transfusion is associated with a very high mortality in severely injured children. There is a need for a massive haemorrhage policy to initiate and guide transfusion in paediatric trauma.

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PRIAPISM IN CHILDREN WITH SICKLE CELL DISEASE: A CASE REPORT

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Background: Priapism is a complication that affects children with sickle cell disease the mean age of presentation being 12 years, around puberty. It is reported to affect up to 50% of all males with sickle cell disease. Ischaemic or low flow priapism commonly seen in sickle cell patients may be acute (fulminant) or stuttering (recurrent short episodes) and is associated with substantial risk of erectile dysfunction and psychogenic sexual aversion.

Summary: We present two cases of fulminant priapism in children with sickle cell disease. Both boys were prepubertal and presented more than 24 hours after onset of symptoms.

Case 1: Four years old achieved detumescence after 5 days, with two venesections, a top up and two exchange transfusions, two corpus carvenosus irrigation and aspiration and two distal cavernosa-spongiosum shunts. There was possibility of erectile dysfunction at six week follow up.

Case 2: Eight years old, was managed conservatively with top up and exchange transfusion, corpus carvenosus irrigation and aspiration with intra-cavernosal injection of etilefrin.

There is little evidence based treatment in the literature. Endothelial activation in penile tissue is suggested as the main cause of priapism rather than vasocclusion with sickle cells. Traditional treatment like exchange transfusion is being questioned especially in view of the so called ASPEN syndrome i.e. association of SCD, priapism, exchange transfusion and neurological events.