Paediatric Pearls

(General Practice update)

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Put together by: Dr Julia Thomson, Consultant Paediatrician, Whipps Cross Hospital, bleep 880, julia.thomson@whippsx.nhs.uk

Dr Julia Thomson

General paediatric consultant with an interest in Emergency Paediatrics

I have recently been appointed at Whipps Cross as a paediatric consultant based in the Emergency Department. I am on the shop floor clinically quite a bit and I have a training and service development role. I am keen to meet / speak with as many local GPs as possible and am happy to do teaching sessions at postgraduate meetings etc.

Do contact me with any service development suggestions and ideas you may have. A GP hotline has been mooted; I welcome comments on that.

I will be putting this update newsletter together every month and some of the slots will be regular such as the featured NICE guideline, "from the literature" and "GP clinical question". I also do an Emergency Department version and try and keep as much crossover as possible for personal time management reasons. I know there is a very varied level of paediatric training and experience in general practice and it is going to be hard to get the pitch right for your version. I am not convinced that you need the ORS worked example in this issue for example though it may be helpful advice to pass on to parents of the children you are not referring in. Any guidance on the pitch gratefully received! I look forward to hearing from you.

Oral rehydration (ORS) in D and V

(worked example)

25kg child with clinical dehydration but no shock:

MAINTENANCE over full 24 hours = *100mls/kg for first 10 kgs*
50mls/kg for next 10kgs
20mls/kg thereafter
= 1600mls = 67mls/hr for 24 hrs

REHYDRATION over initial 4 hours = 50mls/kg = 1250mls = 313mls/hr

Therefore in first 4 hours of ORS therapy give 313 + 67mls/hr = 380mls/hr
For the remaining 20 hours aim at 67mls/hr

Fluids should be given little and often eg. 16mls every 10 minutes for first 4 hours in this example. If tolerated, a higher (more practical) volume can be given every 20 -30 minutes.

FROM THE LITERATURE:

Do all virus-induced wheezers need oral prednisolone? In pre-school children with mild-to-moderate wheezing associated with a viral infection, prednisolone was not superior to placebo. Primary outcome: duration of hospitalisation. Secondary outcomes: amount of β –agonist used, time to return to normal activities, number of readmissions in a month. Authors suggest we do NOT give oral prednisolone routinely to this group of patients. *NEJM* 2009;**360**(4):329-338

GP clinical question

What's the best way to manage vulvovaginitis in a 5 year old girl?

Lots of prepubertal girls have itchy bottoms. The vulval area will be red, occasionally excoriated, there may be labial adhesions, a non-purulent vaginal discharge and sometimes a history of a burning pain on passing urine. In the majority of cases vulvovaginitis is due to non-specific irritation or inflammation with no infective cause found. Lack of oestrogen is generally felt to be the cause though some suggest inadequate hygiene is a contributory factor. Consider streptococcal infection if accompanied by a very red, well demarcated area encircling anus, threadworms if pruritus is a particular problem at night, foreign body if discharge is purulent, rarely sexual abuse. Vulvovaginitis in the prepubertal potty-trained child is not usually caused by Candida species (unless the child is still in pull-ups at night). The child needs a brief external examination and a swab sending for MC&S if there is a discharge. Management is predominantly conservative: no bubble bath, no washing hair in bath, cotton underwear, no underwear at night, wipe from "front to back". Simple unperfumed emollients or nappy creams may help, occasionally a weak steroid cream or oestrogen cream is used but only for short periods as they are both systemically absorbed from this area. Only treat with antibiotics or antifungals if you have a positive swab result. Treat worms if appropriate – 40% of children under 10 will have them at some stage after all!

Suggested reading: Vulvovaginitis: clinical features, aetiology, and microbiology of the genital tract. Jaquiery et al. *Arch Dis Child.*1999; 81: 64-67

Please e-mail me your clinical questions. Nothing is too basic and it's good for my own CPD to have to find you a sensible, evidence-based answer.

This month's featured NICE guideline: ***Diarrhoea and vomiting caused by gastroenteritis; diagnosis, assessment and management in children younger than 5 years (CG84 issued April 2009)***

DIAGNOSIS: Suspect gastroenteritis if there is a sudden change in stool consistency to loose or watery stools, and/or a sudden onset of vomiting.

* diarrhoea usually lasts for 5-7 days but can go on for up to 2 weeks
* vomiting lasts for 1-2 days, occasionally up to 3 days
* send stool for MC&S if child is septicaemic, immunocompromised or passing blood +/- mucus
* consider also sending stool if child has been abroad or still has diarrhoea on day 7

ASSESSMENT: You can access Table 1: symptoms and signs of clinical dehydration and shock at www.nice.org.uk/CG84 where it forms part of a 16 page, easy to follow Quick Reference Guide. Red flag icons on the table help to identify which dehydrated children are at increased risk of becoming shocked.

MANAGEMENT: An easy to follow algorithm appears after Table 1 in the NICE guideline showing how to manage fluids and rehydration. The emphasis is all on oral rehydration; very few children ever need intravenous fluids.

* never discontinue breastmilk
* rehydrate over 4 hours with oral rehydration solution (ORS) and breast milk if breastfed. Give 50mls/kg (100mls/kg if shocked) for fluid deficit replacement over the 4 hours as well as maintenance fluid as calculated in the worked example in the text box above
* give small amounts of ORS often eg. 10mls every 10 minutes. Use nasogastric tube if child refusing oral fluids or asleep. Vomiting is not a contraindication to n.g. tube
* only use intravenous fluids if child shocked, has persistent red flag symptoms or is persistently vomiting with nasogastric tube in situ
* blood tests are only indicated if iv fluids are to be used or if there are signs of hypernatraemia. Consider a venous blood gas if doing blood tests.
* once rehydrated over 4 hours, child should go straight back on to normal diet and/or normal milk but discourage fruit juices and fizzy drinks until diarrhoea has stopped
* advise a 5mls/kg bolus of ORS after each subsequent vomit or diarrhoeal stool
* a parent information leaflet is available at http://guidance.nice.org.uk/CG84