LETTERS TO THE EDITOR

Pulse oximetry in the accident and emergency department

Sir

I read with interest Messrs Lambert and Crinnions' (1989) article on pulse oximetry in the Accident and Emergency department. I would like to suggest an additional use for this equipment. Following the manipulation of a fracture of the forearm or wrist it is often desirable to use a complete plaster cast to minimize the chance of displacement but this may be complicated by ischaemia. The early symptoms of paresthesia are subjective and plasters may be split or removed unnecessarily. We have used the pulse oximeter to compare the wave forms of capillary flow in both the injured and uninjured index finger. In cases of early impaired vascular supply, when no abnormal physical signs were detected, but the patient complained of 'tingling' or 'pins and needles' in the fingers, a markedly flattened and low volume trace was obtained, which reverted to normal upon splitting of the plaster cast, together with an improvement in symptoms. One patient was admitted for elevation of his forearm and the pulse oximeter was attached over some hours, there was a striking trend towards a lower pulse volume over time correlating with a worsening of the patients symptoms.

Whereas there is no substitute for good clinical judgement, this use of a pulse oximeter may be a useful adjunct.

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REFERENCES

Lambert M. A. & Crinnion J. (1989) The role of pulse oximetry in the accident and emergency department. *Archives of Emergency Medicine* 6, 211-15.

Haematocolpos once-in-a-lifetime cause of recurrent abdominal pain

Sir

A 14-year-old schoolgirl presented complaining of crampy lower abdominal pain occurring in spasms lasting up to 10 min over the previous 48 h. The pain seemed worse when she adopted a sitting position but eased following micturition. There was no associated nausea or vomiting. Similar episodes of discomfort had been noted over the previous 8 months occurring at irregular intervals. The patient's mother believed these pains to be like 'period pains'; however, previous consultations with physicians had resulted in administration of simple analgesics and laxatives only. On direct questioning the patient revealed she was the only girl in her class who had not yet menstruated.

Height, weight and secondary sexual characteristics were normal. Abdominal examination revealed a smooth mass arising from the pelvis 2 cms above the symphysis pubis. Rectal examination revealed a soft mass anteriorly. No change was noted following micturition.

Urinalysis and pregnancy tests were negative. Emergency ultrasound confirmed the clinical diagnosis of haematocolpos. The following day under general anaesthesia, a 2 mm thick imperforate hymen was incised allowing free flow of retained menstrual fluid.

Haematocolpos typically presents with the triad of abdominal pain, amenorrhoea and interference with micturition in the 14- to 15-year-old female! At puberty menstrual blood is retained in the vagina which becomes more and more distended with each succeeding period. A clear history may be obtained of regular lower abdominal pain for some months previously but irregular pain is more common. Anterior distension of the vagina may impinge on the urethra interfering with micturition. Per rectum, a large bulging mass may be palpated anteriorly in the vagina. Vulval inspection will reveal the imperforate hymen; however, this may be an extremely traumatic experience (Whitfield, 1984). Ultrasound examination, as in this case, is the investigation of choice.

Despite the rare occurrence, a precise history and clinical examination resulted in an accurate diagnosis of this once-in-a-lifetime cause of recurrent abdominal pain.

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REFERENCES

- Williams E. A. (1978) The surgery of development and congenital disorder in gynaecology. In *Gynaecological Surgery. Clinics in obstetrics and gynaecology*, Lees E. H., Singer A. (eds) 5, Saunders, London, 505.
Whitfield C. P. (1984) *Dewhurst's Textbook of Obstetrics & Gynaecology for postgraduates*. Fourth Edition 11-12.

The boxers fracture: a simple and effective method of external splintage

Sir

Further to the previous letter by one of us (Maitra, *Archives of Emergency Medicine*, June 1989) we have now completed the mentioned retrospective study on angulated boxers fractures. Ours was a 2 observer study and thus decreased observer bias. The methods and results are briefly described. Forty patients with fifth metacarpal neck fractures having a volar angulation of 30° or more were included in the study. Each underwent manipulation under the ulnar nerve block at the wrist or inter metacarpal nerve block. Reduction was accomplished by the Jass manoeuvre. Further pressure was applied at the apex of the fracture site to achieve the best possible reduction. The reduced fracture was held in place with a zimmer splint and strapping with the MCPJ at