Correspondence

Value of ultrasound in differentiating causes of persistent vomiting in infants

Sir,
The practice of neonatal cranial ultrasound was essentially developed by paediatricians. Obstetric ultrasound similarly in its early stages was the preserve of the obstetrician and in many hospitals the responsibility for provision of this service remains shared by clinician and radiologist. Such developments arose mostly from lack of radiological resources and partly admittedly from disinterest of radiologists.

It has become evident recently that some neonatologists, in particular, are using ultrasound for the evaluation of abdominal pathology, for example, in differentiating causes of persistent vomiting in infants. Demarcation disputes can be counter-productive but many radiologists view this change of practice with considerable anxiety and disapproval.

Errors of observation and interpretation will be made by incompletely trained ultrasonologists and these will be compounded by failure to appreciate the particular place of other imaging techniques. Moreover, if hard copies of images are made these become part of the patient’s records and as such can constitute with any report thereon tangible evidence should litigation arise. The occasional ultrasonographer would then have to justify his or her competence (or incompetence!).

Ideally, radiological procedures in their broad definition should be left to radiologists. If radiological resources are insufficient, ask for more.

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Deliberate self poisoning in adolescents

Sir,
The article by Clarke comments upon the difficulties caused by poor compliance in self poisoning adolescents. She also says that an ‘appreciable’ number of children have unacceptably long hospital stays, but does not define what an appropriate stay should be.

In 1988, six adult women under the age of 30 were referred to me by their general practitioners for counselling. All had long histories of significant psychiatric problems that dated back to childhood and had records of poor school performance and truancy. Three had been admitted to hospital under the age of 15 years with self poisoning. All six disclosed serious childhood sexual abuse. None would contemplate referral to either social services or psychiatry as both agencies had been involved in the past.

What interested me was the clarity of recall of the three who had made suicidal attempts, and the remarkable consistency of their perceptions of these events. ‘The psychiatrists seemed more interested in my parents.’ ‘They just sent me straight back home’. ‘He (the abuser) just sat there all day—it was worse than being at home.’ ‘They wouldn’t have believed me anyway.’ ‘They told them (parents) that I didn’t really mean it.’

Dr Clarke acknowledges that sexual abuse has been underestimated in the statistics. I would suggest that this factor may be of very serious significance in the background of large numbers of self poisoning adolescents and that poor compliance with follow up must be viewed in the context of professional failure to recognise this and act accordingly.

The women who spoke to me perceived the standard psychiatric approach (that is, rapid assessment, early discharge, close involvement of parents) as a betrayal of their interests. Dr Clarke proposes no way by which young victims of chronic sexual abuse can be helped to individuate or feel safe. To blame the victim for poor compliance and simply propose more of the medicine that fails seems to me most unhelpful. One woman I spoke to appeared to be more hostile towards and angry about the psychiatrist than the perpetrator of the abuse.

Reference

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Diagnosis of brain death by transcranial Doppler sonography

Sir,
The paper published from Freiburg by Bode et al points to
a particular pattern of sonogram which is characteristic of brain death.\(^1\) The sonogram obtained from the basal cerebral arteries shows a major degree of reversed flow in diastole. We agree with the basic conclusion of the paper and having noted this phenomenon over the past three years published the validation of its use in clinical practice in 1987.\(^2\)

We analysed the sonograms from 23 children with very bad outcome out of a total series of 80 children monitored in coma. We thought it important that the sonogram was expressed numerically and therefore transformed the waveforms into a direction of flow index, DFI=1−R/F where DFI is direction of flow index and R and F are reverse and forward flow respectively.

Our conclusions were: (1) that once a middle cerebral artery signal had been observed after a 30 minute period with a time/velocity of less than 10 cm/s and/or a direction of flow index of less than 0-8 recovery of forward flow throughout diastole was never observed and no patient recovered brain stem reflexes. Where flow index was above these limits but with reverse flow in diastole recovery could occasionally be seen. The direction of flow index could occasionally drop below 0-8 briefly but when persisting for 30 minutes yielded no false positive results. (2) For medical and legal purposes we decided that no decision could be taken as a result of the inability to find a middle cerebral artery signal. Our study was not attempting to answer this question in the neonatal period.

Because of the high degree of concern about possible errors in the diagnosis of brain stem death we were permitted by the editors of the Journal of Neurology, Neurosurgery, and Psychiatry to publish quite a lot of the clinical and sonogram data in its primary form. By validation of phenomenon we mean that no clinical notice was taken of the sonogram and the children fulfilled the United Kingdom criteria for brain stem death over the appropriate time. We did not persist with intensive care until the heart stopped. At a recent meeting this additional method of confirming brain stem death was accepted by a number of people in the field as reliable outside the newborn period.

References


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Hyperventilation in the awake state in children with autistic traits

Sir.

Southall et al reported on hyperventilation in association with Rett syndrome.\(^3\) Hyperventilation is a behavioural trait common to Rett syndrome, infantile autism, and autistic traits resulting from severe organic brain damage.\(^2\) We had the chance of studying six children (four girls, two boys) belonging to the last group, who underwent polygraphic recording (electroencephalography, electrocardiography, and measurement of respiratory movements) and transcutaneous oximeter monitoring. The diagnosis of Rett syndrome and autism was excluded as our patients did not fit the criteria proposed by Olsson and Rett.\(^3\) All but one were severely mentally retarded with total absence of speech: only one girl showed a moderate mental retardation.

All our patients presented with hyperventilation. Interesting parallels were found with the cases of Rett syndrome of Southall et al. Prolonged apnoeic pauses or Valsalva manoeuvres, or both, occurred immediately after episodes of hyperventilation, sometimes resulting in a vagal syncope with consciousness impairment. Blood oxygen tension fell during breath holding and rose to normal values when respiration started again. Breathing was normal during sleep. A feeling of anxiety was experienced by all the observers when children hyperventilated and had prolonged apnoeas and self induced syncopeces. The parents complained of the same feeling.

Five of our patients underwent measurement of their brain stem evoked responses that were elicited by monoaural clicks at 70 dB hearing level during active wakefulness; absolute and interpeak latency values were normal. We did not succeed in recording brain stem evoked responses in the sixth patient because of his behavioural disorder.

We believe that the results of measurements performed in the children we studied indicate that the respiratory abnormalities in brain damaged children with autistic traits do not differ from those of Rett syndrome. Thus the same mechanism could be implied. As brain stem evoked responses represent a device for investigation of brain stem function, the hypothesis that hyperventilation in these children results from a brain stem dysfunction is not supported by our findings. Reduction of the higher centres inhibition could be a possibility, but we believe that the adjunctive hypothesis, psychological rather than medical, should be considered.

Gastaut stated that self induced Valsalva manoeuvres could represent a behaviour reinforced from the pleasure obtained by the brief loss of contact with the surroundings.\(^4\) We consider that breathing abnormalities and loss of consciousness evoke painful emotions in observers. The children we studied have very poor means of expression—with five out of six being totally speechless—thus the reported behaviour could be considered a psychotic means of communication of bad feelings.

References
