with techniques which show better correlation with clinical symptoms (such as the 24 hour continuous oesophageal pH monitoring and 'milk scan'). The almost perfect agreement between barium examination and ultrasound reported by Naik and Moore suggests, therefore, a high false positive rate regarding clinically important gastro-oesophageal reflux for ultrasound too. This means that the information obtained may not be relied upon and the patient's symptoms are perhaps unrelated to coexisting incidental reflux. It would have been more informative to compare ultrasound with oesophageal pH monitoring or radioisotope 'milk scan'.

Moreover, as the authors state, clinical manifestations of reflux (vomiting, failure to thrive, anaemia, aspiration, and perhaps even 'cot death') are non-specific. The barium oesophagram has the advantage of offering additional important information such as swallowing incoordination, peptic oesophagitis with strictures, duodenal obstruction, midgut malrotation, or delayed gastric emptying to mention but a few conditions that may cause symptoms similar to those of simple gastro-oesophageal reflux. With current equipment these conditions would be missed were ultrasound to replace barium examinations. Ultrasound is excellent for the diagnosis of pyloric stenosis and in the appropriate clinical set up it should be performed first, at which time one may also look for gastro-oesophageal reflux. Ultrasound is, therefore, a diagnostic tool which may be used selectively in suspected gastro-oesophageal reflux, but it cannot at present replace barium studies completely.

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Drs Naik and Moore comment:

Our paper indicated that ultrasound is a reliable technique by which to answer the question 'Does gastro-oesophageal reflux occur?' Our subsequent experience with the technique has confirmed this. In a patient in whom a clinical diagnosis of gastro-oesophageal reflux has been made ultrasound is an excellent means of confirming this and a barium examination is unnecessary. Ultrasound, however, does not provide comparable anatomical detail to a barium examination and when this is required a barium examination will still be needed. The number of barium examinations for reflux should be few. We are currently trying to define the indications for a barium examination in suspected reflux and would suggest the following:

1. Failure to visualise the oesophagus ultrasonically.
2. Repeated negative ultrasonic findings in a patient with strong clinical indications of reflux.
3. A patient with proved reflux in whom the development of a complication is suspected.
4. Before operation.

We have not determined the 'false/positive' rate for our technique; our original criteria were chosen as working guidelines and it may well be that stricter criteria will be necessary to select those patients in whom reflux is 'clinically important'. We feel this can only be determined after more cases have been studied and the results have been correlated with the clinical findings and response to appropriate treatment.

References

Gaviscon bezoars

Sir,

We read with interest the recent paper by Sinaasappel et al on progressive vomiting in a 5 month old boy caused by a bezoar of Gaviscon. In the past 18 months we have seen three cases of Gaviscon bezoar.

A girl was born by spontaneous vertex delivery at term, her birthweight was 3550 g. At age 6 days Gaviscon was introduced to control persistent vomiting, but there was no improvement. Eight days later a barium meal examination showed gastro-oesophageal reflux plus a large mobile irregular mass in the stomach which was believed to be a Gaviscon bezoar. Gaviscon treatment was stopped and the vomiting settled with the addition of Nestargel to the feeds. A repeat barium meal three weeks later showed that the bezoar had resolved.

A boy was admitted at the age of 6 months with persistent vomiting. Treatment was started with Infant Gaviscon in a dose of one sachet with each feed, but the vomiting persisted and two days later a barium meal examination was carried out. A large mobile mass was seen filling much of the body and antrum of the stomach, and the appearances were thought to be those of a bezoar. Gaviscon treatment was stopped and the vomiting settled with nursing in a chair and the addition of solids to the diet. The bezoar was not found by a repeat barium meal three weeks later.

The third case occurred in a male infant who had lactic acidosis of unknown aetiology. He was admitted at 3 months of age with lethargy, vomiting, and refusal to feed. A barium swallow showed noticeable gastro-oesophageal reflux and treatment was started with one half sachet of Infant Gaviscon with each feed. He developed abdominal distension and the vomiting became more severe. Plain abdominal radiograph and a barium meal showed the presence of two very large mobile bezoars (Figure) and Gaviscon treatment was stopped. Barium studies were not repeated because of his poor clinical condition related to the lactic acidosis.