Neurologically impaired children with gastroesophageal reflux

To the Editor—In their paper on neurologically impaired children with gastroesophageal reflux (GOR), Cheung et al[1] mentioned that two of the 20 patients had GOR diagnosed by barium meal. I would like to discuss the terminology and diagnostic tests.

First of all, 'GOR' should be distinguished from 'GOR disease' or 'pathological GOR'. 'GOR' usually refers to an episode of reflux of the gastric contents into the oesophagus. This is a normal phenomenon at all ages. Classifying it as pathological GOR or GOR disease is dependent on the severity as defined by various objective criteria. I infer from the article that the authors implicitly refer to 'GOR disease' when using their term, 'GOR', as all these subjects needed surgery for it.

A barium meal shows the anatomy of the mucosa via a luminal contrast. For example, we may demonstrate a hiatus hernia or pyloric obstruction as a cause of GOR disease. As the scan time is limited, it is simply a qualitative observation after a non-physiological 'drink'. We cannot diagnose GOR disease based on a barium meal alone. The presence or absence of GOR episodes during a barium meal therefore cannot confirm or exclude GOR disease.

I am also perplexed by the case with a preoperative reflux index (RI) of 0% on a 24-hour oesophageal pH study. How was this case proven to have GOR before surgery? Was it diagnosed with a barium meal alone? Unless there is a drug effect or achlorhydria, the pH study should have been able to pick up GOR in this case.

KH Poon, FHKAM (Paediatrics)
(e-mail:pkh978@ha.org.hk)
Department of Paediatrics and Adolescent Medicine
Tuen Mun Hospital
Tuen Mun, Hong Kong

Reference

1. Cheung KM, Tse HW, Tse PW, Chan KH. Nissen fundoplication and gastrostomy in severely neurologically impaired children with gastroesophageal reflux. Hong Kong Med J 2006;12:282-8.

Authors' reply

To the Editor—Thank you for the comments from Dr KH Poon. I agree that gastroesophageal reflux (GOR) is common and can be a normal event. When it leads to symptoms such as recurrent vomiting, gastro-intestinal bleeding and pneumonia, it is regarded as gastroesophageal reflux disease (GORD). GORD is very common in patients with severe neurological impairment. Among our patients with the above symptoms, the diagnosis of GOR was confirmed by investigations before referral for fundoplication and gastrostomy. Although 24-hour oesophageal pH monitoring is regarded as the gold standard diagnostic test, it cannot detect non-acid influx. Two patients were on a continuous milk drip during the test. The reflux index (RI) of 0% was related to the alkaline nature of the gastric contents (due to the presence of formula). Oesophagitis was found on the oesophageal biopsy in one patient. GOR was noted during the barium meal in another patient. This, together with the presence of recurrent vomiting and the failure to respond to medical treatment, led to the patient being diagnosed with GORD and then referred for surgery. After the operation, the GOR symptoms resolved. The postoperative RI was 1.1% (the patient was on bolus feeding after the operation).

There were two patients in whom the diagnosis of GOR was made by barium meal. One has been mentioned above. In the other patient, whose preoperative reflux index was 3.2% and who had symptoms of recurrent gastrointestinal bleeding, endoscopy was not feasible because the patient had arthrogryposis and a frozen jaw. The symptoms recurred soon after the surgery; the postoperative 24-hour oesophageal pH studies showed a RI of 7.7%. The symptoms resolved after commencing proton pump inhibitors.

KM Cheung, MRCP, FHKAM (Paediatrics)
(e-mail: jennykmcheung@hotmail.com)
Department of Paediatrics
HW Tse, FRCSI, FCSHK
Department of Surgery
PWT Tse, MRCP, FHKAM (Paediatrics)
KH Chan, FRCP, FHKAM (Paediatrics)
Caritas Medical Centre
Shamshuipo
Hong Kong