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Cervical lung protrusions in children

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Sir,

I thoroughly enjoyed Dr. Guido Currarino's article [1] and your editorial comment. The simple form of cervical lung protrusion can persist into adulthood and be observed as an incidental finding. I recall two separate specific instances when this simple form was the explanation of an unusual complication.

During my general radiology training and before entering into pediatric radiology, I was carrying out a neuroradiologic procedure of a direct puncture carotid angiogram. In those days that was the routine practice, and catheter angiography was just being introduced. Certainly there were no computed tomography, magnetic resonance imaging, or Doppler ultrasound facilities in those "early" days of interventional/neuroradiology. On two separate occasions after direct puncture of the common carotid artery low in the neck, each patient developed a small apical pneumothorax subsequent to withdrawal of the cannula. This was an unusual experience for me, and on investigation the explanation of this rare complication was that both adults had cervical lung protrusions,

and the needle had knicked the pleura on entering the carotid artery. None of them required drainage of small pneumothorax, which resolved spontaneously in due course. I have not come across this particular complication since in my adult or long pediatric practice.

Reference

1. Currarino G (1998) Cervical lung protrusions in children. *Pediatr Radiol* 28: 533–538

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The lateral view: a useful adjunct in the diagnosis of malrotation

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Sir,

The diagnosis of intestinal malrotation on an upper gastrointestinal study (UGI) has traditionally depended on the location of the duodenojejunal junction (DJJ) on a straight anteroposterior (AP) view. Occasionally, however, it can be difficult to assess the exact location of the DJJ and the course of the duodenum accurately. We examined the findings on the lateral view in an attempt to define whether these findings are helpful in establishing the diagnosis of malrotation, as the value of the lateral view has not previously been formally addressed in the literature [1–7].

Findings on UGI series in 49 children with surgically proven malrotation were retrospectively reviewed. These included

33 boys and 16 girls (aged 1 day to 15 years) who presented to our hospital during the 5-year period from 1992 to 1997. All available images from the UGI studies were reviewed, with particular attention to the lateral view. Lateral views were available in 40 of the 49 UGI studies; these were compared with the normal lateral view of the duodenum (Fig. 1).

The course of the duodenum could be followed in the lateral view in 27 of 40 patients (68%). In 19 of 27, the junction of the second and third parts of the duodenum was shown to turn anteriorly (Fig. 2) rather than continuing in a normal retroperitoneal position (Fig. 1). In another five, the corkscrew appearance of midgut volvulus was better appreciated in the lateral than in the AP view (Fig. 3). In two cases, there was complete obstruction and dilatation of the second part of the duodenum, and the course of the distal duodenum was not outlined. In one patient, the duodenum appeared tortuous and remained posterior, simulating a normal course.

In the other 13, the lateral view was inconclusive; in 8 patients it was obtained later in the study when overlapping, barium-filled loops of bowel obscured the course of the duodenum, and in the other 5 there was incomplete filling of the duodenum in the lateral views avail-

able and its course could not be entirely followed.

The lateral view was not used in nine of the children, indicating that this view was often considered not to be of any help by the radiologists performing the study. We feel that this reflects the lack of information in the literature regarding the value of the lateral view.

To appreciate the findings on the lateral view that are suggestive of malrotation, it is necessary to observe the duodenum carefully as barium passes through early in the study, before contrast-filled distal loops obscure the course of the duodenum. The lateral view must be a true lateral because the course of the normal duodenum in an oblique view may simulate the changes we have described in malrotation. When the findings in the AP view are inconclusive, the described findings in the lateral view can be an important adjunct in the diagnosis of malrotation.

Fig. 1 UGI in an 8-month-old boy. The lateral view shows the normal course of the third and fourth parts of the duodenum in the retroperitoneum. The DJJ is in the normal posterior position (*arrow*), at the level of the gastric antrum and duodenal cap

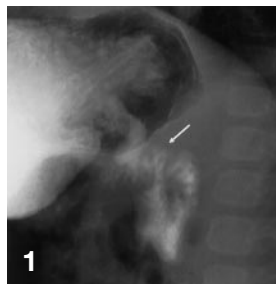
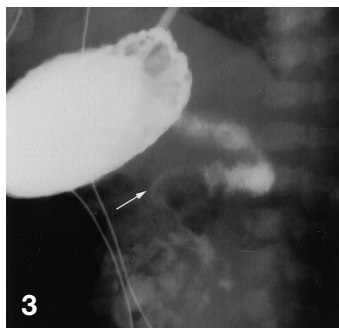


Fig. 2a,b UGI in a 5-year-old boy with malrotation. **a** Lateral view shows forward passage of barium from the second to the third part of the duodenum (*arrow*). **b** The duodenal course can then be followed anteriorly and inferiorly (*arrow*)



Fig. 3a,b UGI in an 8-day-old boy with malrotation and midgut volvulus. **a** Lateral view shows the third part of the duodenum pointing anteriorly. The corkscrew appearance (*arrow*) indicating volvulus is more clearly delineated than in the AP view (**b**)



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