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MYSTERIES OF THE UPPER POUCH TRACHEOESOPHAGEAL FISTULA

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Aim: Approximately 5% of oesophageal atresia (OA) will have a proximal tracheoesophageal fistula (pTOF). Failure to recognise an upper pouch fistula can hamper mobilisation of the upper pouch and lead to life threatening episodes of aspiration once oral feeding starts. We reviewed our experience of pTOF to see if there were features that could aid identification.

Methods: Retrospective notes review of our neonatal database and review of bronchoscopy videos from 01/01/2006 to 31/12/2015.

Results: Eight patients were identified (M: F 5:3) with a median gestation 34 weeks (28-39) and median birth weight 1.65 kg (1.1 - 3.4).

Six patients were initially thought to be pure OA and 2 had distal TOF. All patients had a rigid bronchoscopy at the time of initial surgery (1-3 days after birth), of these only 2 patients were identified as having a pTOF. The 6 missed on bronchoscopy were subsequently noted to have a pTOF at the initial thoracotomy when mobilising the upper pouch (3) or prone tube oesophagogram (3); 3 patients needed a further operation to ligate and divide the fistula. Review of the bronchoscopy videos revealed several differences between upper pouch and lower pouch fistulas. We identified the following characteristics of pTOF:

1. They are found just distal to the vocal cords so are easy to go past with the bronchoscope.
2. Very small diameter, often no more than a pit.
3. Did not open and close with ventilation as did H-type or distal fistulas.
4. Best identified by insufflation of air from oesophagus so that bubbles could be seen going through the fistula.

Conclusion: pTOF are relatively easy to miss because of different characteristics compared with H-type or distal fistulas. We have identified specific characteristics of proximal fistulas, not mentioned in the literature, which should help with recognition.