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HOW ACCURATELY DOES BRONCHOSCOPY AT TIME OF INITIAL SURGERY PREDICT SYMPTOMATIC TRACHEOMALACIA IN OESOPHAGEAL ATRESIA/TRACHEO-OESOPHAGEAL FISTULA?

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Aim: Oesophageal atresia/tracheo-oesophageal fistula (OA-TOF) is associated with tracheomalacia (TM). In our institution it is routine for OA-TOF patients to undergo dynamic flexible bronchoscopy (DFB) assessing both the site of the fistula and the presence or absence of TM. We aimed to determine the value of this investigation as a screening tool to predict subsequent symptomatic tracheomalacia in these patients.

Methods: All patents with OA-TOF who underwent DFB at the time of initial repair between June 2014 and November 2016 were included prospectively. The findings at DFB were recorded. Patients were grouped according to the presence or absence of TM and followed to determine which of them developed symptomatic airway problems. The sensitivity and specificity of TM at initial bronchoscopy as a screening tool for subsequent symptomatic TM were calculated. The study was given ethical approval by our institution.

Main Results: 23 patients were included in the study. Median follow-up was for 7 months (3 weeks-27 months). 15(65%) were found to have TM at their first DFB. 13(57%) subsequently developed airway symptoms and of these 11 had TM at initial DFB, 2 had no malacia. One patient with severe TM (>90% tracheal collapse) at initial DFB was completely asymptomatic following their OA-TOF repair.

The sensitivity was 84.6% and specificity was 60.0%. The positive and negative predictive values were 73.3% and 75.0% respectively.

Conclusions: DFB to assess for TM at the time of initial surgery is a useful screening tool for identifying OA-TOF patients at risk of developing symptomatic airway problems. It is however, only moderately sensitive with a low specificity.