Case Report

Reoperation of Anastomotic Stricture after Oesophageal Atresia Repair: An Uncommon Event

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Abstract

Oesophageal atresia is a common malformation in which the survival rate in developed countries is around 90%, while its mortality remains very high in developing countries. Oesophageal stricture post-oesophageal atresia repair is traditionally treated by non-surgical approach. However, surgical resection of the oesophageal stricture may be necessary after the failure of dilations. We report one case of refractory oesophageal stricture post-EA repair in a 3-year-old girl, who underwent oesophageal atresia Type III repair at 11-day-old. We performed an end-to-end oesophageal anastomosis with tracheal oesophageal fistula closure by extra-pleural approach. The patient was lost to follow-up for 3 years. She was seen later for anastomotic oesophageal stricture with the failure of oesophageal dilatations. Surgical resection of oesophageal stricture was performed with end-to-end oesophageal anastomosis.

Keywords: Anastomosis, atresia, oesophageal, reoperation, stricture

Introduction

Anastomotic strictures are common and important problems following surgical repair of oesophageal atresia.[1,2] It is defined as the presence of symptoms (dysphagia and recurrent respiratory problems from aspiration or foreign body obstruction) and narrowing noted on endoscopy or oesophageal opacification.[1] Many risk factors of oesophageal stricture are known including anastomotic technique (excessive tension, two-layered anastomosis and the use of silk suture material), long gap, ischaemia at the ends of the oesophagus, gastro-oesophageal reflux disease (GERD) and anastomotic leak.[1,3] Strictures usually respond well to dilation,[2,4] thus resection of the stricture is rarely required.[2] Surgical resection has been reported to vary from 2% to 7% in the recent literature4] We report a case of anastomotic stricture whose diagnosis was made later.

Case Report

A 9-day-old female new born was referred to our institution for excessive salivation, regurgitation and sometimes coughing. She was born at term by normal vaginal delivery; her birth weight was 3000 g and Apgar score was 9 and 9, respectively, at 1 min and 5 min. The test using a feeding tube 8F (firm and radio-opaque) was positive. A plain X-ray including the neck, the thorax and the abdomen was performed. It showed the level of the feeding tube and air in the stomach and bowel [Figure 1]. The diagnosis of oesophageal atresia (Type III or IV) was suggested. Congenital anomalies assessment including, echocardiography, abdominal and urogenital ultrasound was performed and was normal. The child underwent oesophageal atresia repair by extra-pleural approach at 11-day-old. Intra-operative finding was an EA Type III. An end-to-end oesophageal anastomosis was performed without tension using an absorbable suture material. The short-term outcome was good with oral feeding commenced after oesophageal opacification that was performed 10 days after EA repair [Figure 2]. The oesophageal opacification was normal without neither leak nor gastro-oesophageal reflux. The patient was not seen lost sight for 3 years, and he was admitted for dysphagia to solid and then total since 1 year, weight loss, asthenia, denutrition and dehydration. The

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diagnosis of neglected anastomotic stricture was confirmed by oesophageal opacification [Figure 3]. Oesophageal fibroscopy confirmed a tight and impassable oesophageal narrowing at 6 cm from the Kilian's mouth**.** A feeding gastrostomy was performed for correction of nutritional deficit. Several failed attempts of oesophageal dilation were made via antegrade and retrograde bougienage. Surgical repair of the oesophageal stenosis was performed 5 months later using intra-pleural approach. Resection of the stenotic area [Figure 4] followed by

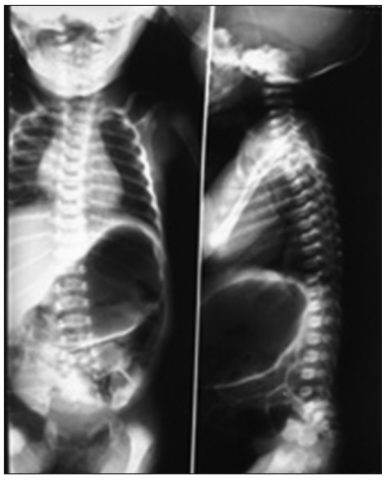

Figure 1: Neck and thoraco-abdominal X-ray showing air in the stomach

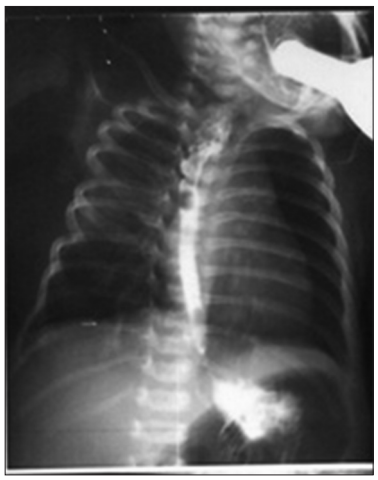

Figure 2: Oesophageal opacification performed 10 days after oesophageal atresia repair

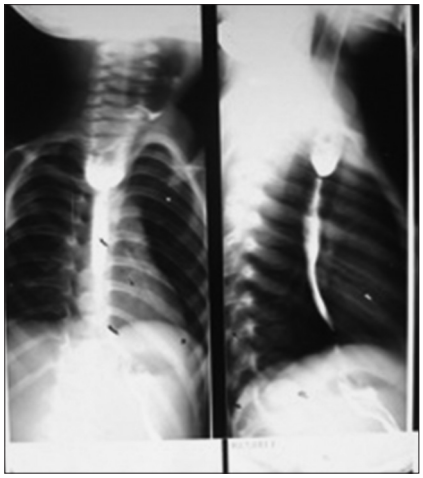

Figure 3: Oesophageal opacification showing the level of the stricture

Figure 4: The oesophageal atretic segment removed

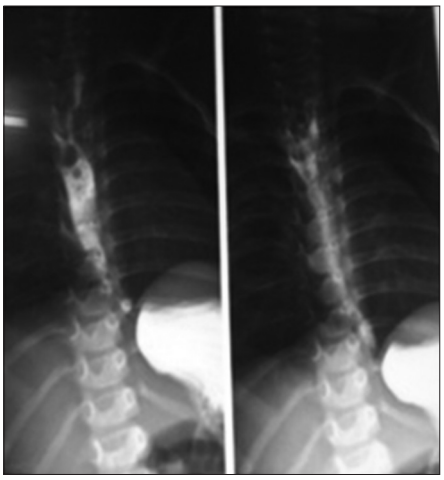

Figure 5: Normal oesophageal opacification

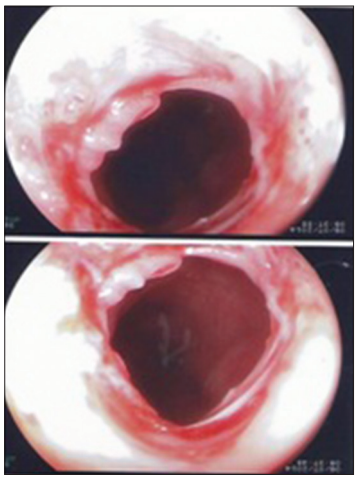

Figure 6: Oesophageal stricture showed by fibroscopic examination

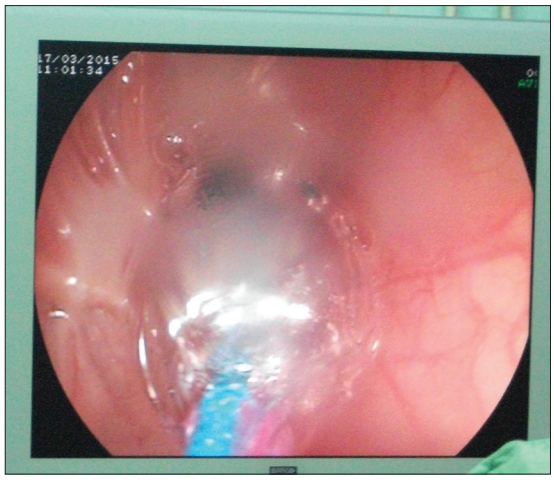

Figure 7: Balloon dilation of oesophageal stricture

end-to-end oesophageal anastomosis was performed without tension. The short-term outcome was good with normal oesophageal opacification [Figure 5]. Fibroscopic examination performed 2 months later showed a narrowing at the superior quadrant of the oesophageal anastomosis area [Figure 6]. Monthly oesophageal ballon dilatation was performed with medical anti-GERD treatment [Figure 7].

Discussion

Oesophageal stricture is a common complication of anastomosis of the oesophagus in EA.[2] Stricture requiring dilatation is reported to occur in up to 80% of patients.[2] Many risk factors of oesophageal stricture are known including anastomotic technique (excessive tension, two-layered anastomosis and silk suture material), long gap, ischaemia at the ends of the oesophagus, GERD and anastomotic leak.[2,3] Oesophageal stricture is traditionally treated by dilatation performed via antegrade or retrograde bougienage.[2,3] Serhal *et al*. reported a successful rate of 87% of their patients who underwent oesophageal dilation with Savary-Gilliard bougies.[5] The failure of several attempts of dilations in our case was due to the late diagnosis. Resection of the stricture is rarely required.[3] It is required in case of a recalcitrant stricture resistant to repeated dilations like in ours. Many non-surgical alternative treatments for refractory strictures post-oesophageal atresia repair were developed in the literature without wide consensus.[6] However, balloon dilatation has increasingly been used with the success rate ranging from 70% to 100%.[7] This later non-surgical approach was available in our unit.

Conclusion

Surgical resection of oesophageal stricture after oesophageal atresia repair is uncommon. It may be indicated after the failure of oesophageal dilatation.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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