A CASE OF PNEUMOPERITONEUM IN A NEW-BORN CHILD.

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INTRODUCTION

TRACHEO-OESOPHAGEAL fistula abnormalities is not a rare anomaly. Oesophageal atresia and tracheo-oesophageal fistula may occur as separate deformitis but, more commonly, they occur together.

In addition to the obvious oesophageal and tracheal abnormalities, concomitant lesions do occur. The most common of these associated lesions are congenital heart diseases, gastrointestinal abnormalities like imperforate anus and duodenal atresia, genitourinary anomalies, skeletal and muscular deformities.

We now present a case report of a newborn child with tracheo-oesophageal fistula who subsequently developed a massive pneumo-peritoneum, probably due to a spontaneous rupture of the stomach.

CASE REPORT

On the 4th of April 1978, a one-week old female child, the first of a set of twins, was referred to the Surgical Unit of the General Hospital, Tawau, Sabah. The history was that a 28 year-old Bugis female, with a gestational period of about 32 weeks who went into spontaneous premature labour prior to admission. On admission, a diagnosis of polyhydraminios with twin pregnancy was made. She delivered a set of twins, both females, soon after admission. The first twin, with a birth weight of 1.68 kg, was found to have hare-lip and cleft palate. The second twin who was 1.82 kg was normal. The first twin was refered to us due to distension of the abdomen and cyanosis on oral feeding. As we were not able to pass a catheter down the oesophagus, a provisional diagnosis of broncho-oesophageal fistula was made. As the child was referred late and was in a poor general condition, no surgery was attempted. All the same, a gastrograffin study was ordered.

Figure 1 shows the radiograph taken two days after birth. It shows a markedly dilated stomach with the presence of air in the bowel loops. There is also a collapse of the right upper lobe. Figure 2 shows the radiograph taken just prior to the commencement of the gastrograffin study. It shows the

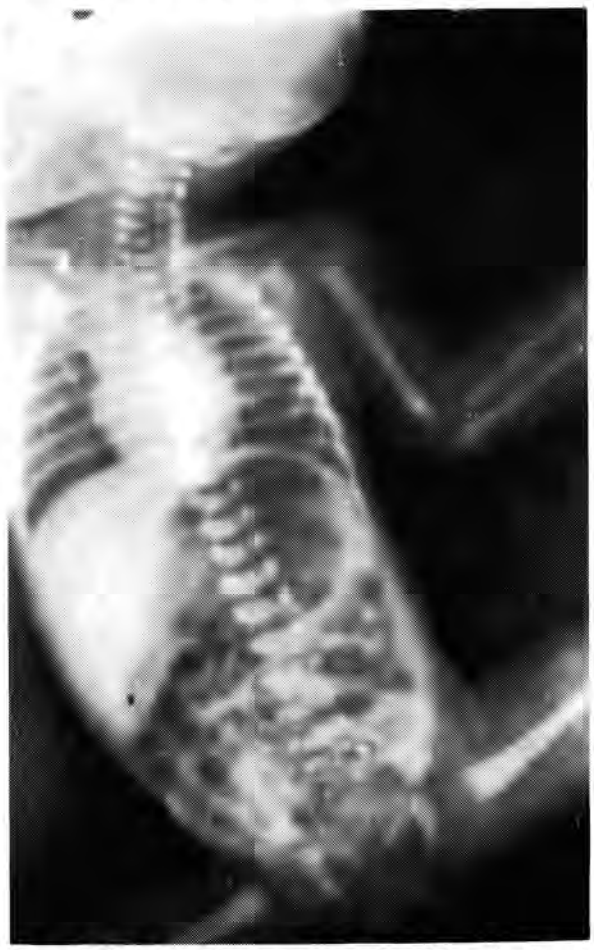

Fig. 1. Radiograph taken two days after birth, showing a markedly dilated stomach and the presence of air in the bowel loops.

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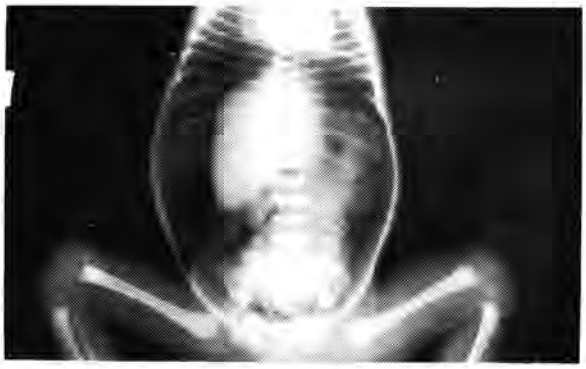

Fig. 2. Radiograph taken prior to the commencement of the gastrografin study, showing the absence of air in the stomach and bowel loops, but the presence of air in the peritoneal cavity.

absence of air in the stomach and bowel loops but the presence of air in the peritoneal cavity. The diagnosis of oesophageal atresia with distal tracheo-oesophageal fistula with pneumoperitoneum was then made. The child died a few hours after the gastrograffin study. A request for post-mortem was refused by the parents.

DISCUSSION

At about the 21st day of embryonic development, the foregut begins to form into the dorsal oesophagus and the ventral trachea. The two organs are separated by a process of septation. An interruption in the septation process results in a fistula between the oesophagus and trachea. A low fistula would by the result of an early 'interruption' and a high fistula the result of a late 'interruption'.

The two conditions which may herald the birth of a child with oesophageal fistula are hydramnios and prematurity. 35 per cent of patients with oesophageal atresia with tracheo-oesophageal fistula are born premature by weight or age while a recognizable abnormality is present in some 50 per cent of these patients.

Though no known pattern of heredity has been established, sporadic cases of sibling being born with oesophageal atresia with tracheo-oesophageal fistula does occur.

Distension of the abdomen, in these children, is a result of swallowing air. Normally, a child will close his glottis while crying and this forces the air through the tracheo-oesophageal fistula into the stomach. The gastric and intestinal dilatation may elevate the diaphragm and respiration may become impaired. It is extremely unusual for patients with distal tracheo-oesophageal fistula to have a gas free abdomen, though reports contrary to this have been cited.

Though spontaneous rupture of the bowel is rare, in cases of congenital deformities such as this, a thinning of the stomach wall or gastrointestinal tract may be present making spontaneous rupture possible.

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