

Disorders of the diaphragm

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Disorders of the diaphragm can be broadly classified as disorders of innervation, leading to paralysis of the diaphragm, with elevation and reduction of thoracic volume leading to breathlessness, and disorders of anatomy, which are further categorised into congenital diaphragmatic hernias or acquired hernias, usually secondary to trauma. There are two well recognised congenital sites where abdominal viscera can herniate into the chest (Figure 60.28).

The foramen of Morgagni: a hernia in the anterior part of the diaphragm with a defect between the sternal and

Giovanni Battista Morgagni, 1682–1771, Professor of Anatomy, Padua, Italy, for 59 years, regarded as ‘the founder of morbid anatomy’.

Victor Alexander Bochdalek, 1801–1883, Professor of Anatomy, Prague, Czech Republic.

Mark M Ravitch, 1910–1989, paediatric surgeon, University of Pittsburgh, PA, USA.

Donald Nuss, contemporary, paediatric surgeon, Norfolk, VA, USA, described this technique in 1987.

The transverse colon.

The foramen of Bochdalek: through the dome of the diaphragm posteriorly.

Traumatic rupture of the diaphragm may occur with blunt trauma. Unless there is severe bleeding or strangulation of the viscera it is best managed after an interval. In a severely injured patient being ventilated it can wait until other injuries are dealt with and weaning from the ventilator is being considered.

When the diaphragm is breached, as in anatomical disorders, repair either with primary closure or with a mesh is usually possible via a thoracotomy.

Diaphragmatic paralysis, particularly idiopathic unilateral paralysis, can be treated by plication, returning the diaphragm to a lower position and improving thoracic volume.

Figure 60.28 Diagram of sites of hernias. The usual sites of congenital diaphragmatic hernia: 1, foramen of Morgagni; 2, oesophageal hiatus; 3, foramen of Bochdalek (pleuroperitoneal hernia); 4, dome.

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