Sternal cleft malformation in a newborn
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DESCRIPTION
We present the video case report (see online supplementary video) of a term newborn with complete sternal cleft and skin defect 2 cm in diameter, without other associated anomaly, including skeletal (figure 1). She was born by elective C-section due to breech presentation. There was no prenatal diagnosis. The baby was in good general condition. The chest X-ray did not reveal any other thoracic malformation. The echocardiogram showed a small patent ductus arteriosus and a patent foramen ovale in a structurally normal heart.

Sternal cleft is a rare congenital malformation due to a partial or total failure of sternal fusion early in the embryological development.1 The sternal defect seems to be more easily identified when associated with a cardiac anomaly, because of the repeated scans for other malformations. The superior cleft is often associated with malformations like facial hemangioma or abdominal raphe, while the inferior cleft associates with ectopia cordis alone or as the pentalogy of Cantrell (ectopia cordis, intracardiac defects, sternal cleft, omphalocele, pericardial defect communicating with the peritoneal cavity).2

Sternal cleft is easily diagnosed at birth due to abnormal movements of the thorax as seen in our (online supplementary video). Surgical treatment of the sternal cleft is required depending on the size of the defect, early surgery being preferred due to the elasticity of the thoracic cage. The indications for surgery aim to improve respiratory dynamics, protect the mediastinal structures from direct injuries and are also cosmetic.3 Our patient’s defect was not corrected surgically.

Learning points
► The sternal cleft may be partial or total, depending when the development process stopped. The defect could be superior, inferior or complete.
► The sternal defects are often associated with other malformations.
► There is general agreement that sternal cleft should be repaired in the neonatal period with autogenous tissue because there’s maximal flexibility of the thorax and minimal compression of the underlying structures.

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REFERENCES

Figure 1  Chest X-ray demonstrates no skeletal abnormality on first day of life.

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