IMAGES IN NEONATAL MEDICINE

Spontaneous ping-pong parietal fracture in a newborn

CLINICAL CASE

A female infant was delivered by caesarean section at 38 weeks of gestation with a depressed calvarial fracture (DCF) (figures 1–3). No trauma was described during the pregnancy. No instrumental extraction was used during C-section. The newborn examination was normal.

DCF are skull distortion similar to a 'ping pong ball' because of the cranial vault flexibility.[1] DCF are secondary to instrumental extraction, but may also occur in utero.

Fetal head pressure against the maternal bony structures can result in fracture.[2] Trauma to the mother's abdomen and traumatic delivery are also accepted as pathological mechanisms for such lesions. The fetal head during the third trimester of pregnancy is completely protected by the surrounding bony structures. Therefore, it is unlikely that an impact, without maternal pelvic injuries (uterine myoma or tumour), would be responsible for a fetal skull fracture.[3] Other mechanisms related to the fetus itself include skull compression by a twin or pressure exerted by the digits and fists of the newborn on his skull.[4] Finally, when the spontaneous or induced nature of

Figure 1 Photography of the 1-day newborn skull that shows the parietal depression without haematoma.

Figure 2 Encephalic CT scan in the axial plane, brain filter, of the infant 24 hours after her birth. It shows the invagination of the parietal bone (arrow) with a little mass effect on the cortex, without intra-axial or extra-axial haemorrhage.

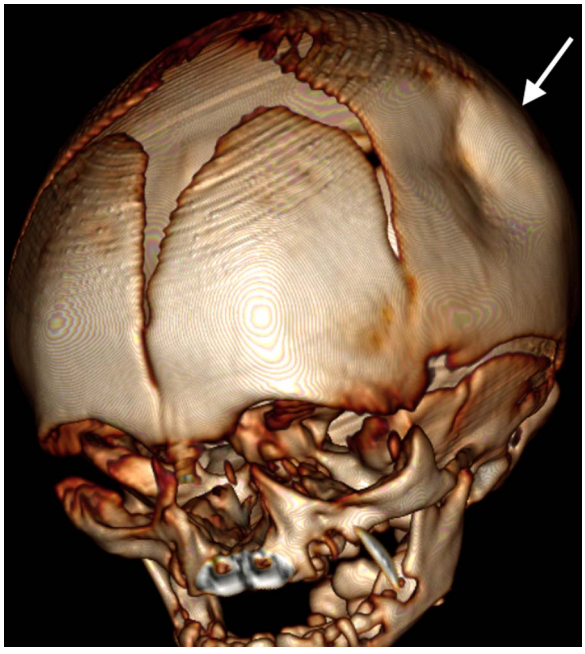

Figure 3 Encephalic CT scan in three-dimensional volume view of the infant 24 hours after her birth. It shows the invagination of the parietal bone without break line (arrow).

the injury is undetermined, DCF can involve obstetrician responsibility.[4]

Treatments of DCF include surgical elevation, elevation by digital pressure on the edges of the depression and elevation by vacuum extractor or a breast pump.[5] Watchful waiting can be advised since many fractures can elevate themselves spontaneously.[2 3] Conservative treatment often result in spontaneous resolution within 4 months.[2] Depressed skull fractures have a good prognosis if the newborn has a normal neurological examination at birth.[1]

Mathilde Loire,[1] Maxime Barat,[2] Laurent Mangyanda Kinkembo,[3] Florence Lenhardt,[4] Célestin M'buila[3]

[1]Service de Pédiatrie, Groupe Hospitalier Carnelle Portes de l'Oise, Beaumont sur Oise, Île-de-France, France
[2]Department of Radiology, Groupe Hospitalier Carnelle Portes de l'Oise, Beaumont-sur-Oise, Île-de-France, France
[3]Department of Pediatrics, Groupe Hospitalier Carnelle Portes de l'Oise, Beaumont sur Oise, Île-de-France, France
[4]Department of Obstetrics, Groupe Hospitalier Carnelle Portes de l'Oise, Beaumont-sur-Oise, Île-de-France, France

Correspondence to Dr Mathilde Loire, Service de Pédiatrie, Groupe Hospitalier Carnelle Portes de l'Oise, 25 Rue Edmond Turcq, Beaumont sur Oise, Île-de-France 95260, France; mathildeloire@orange.fr

Contributors All authors have made substantial contributions to all of the following: the conception and design of the study, or acquisition of data, or analysis and interpretation of data, drafting the article or revising it critically for important intellectual content, final approval of the version to be submitted.

Competing interests None declared.

Patient consent Parental/guardian consent obtained.

Provenance and peer review Not commissioned; internally peer reviewed.

To cite Loire M, Barat M, Mangyanda Kinkembo L, *et al*. *Arch Dis Child Fetal Neonatal Ed* 2017;**102**:F160–F161.

Received 22 May 2016
Revised 11 August 2016
Accepted 26 August 2016
Published Online First 19 September 2016

Arch Dis Child Fetal Neonatal Ed 2017;**102**:F160–F161.
doi:10.1136/archdischild-2016-311232

REFERENCES

1 Chauvet A, Boukerrou M, Nayama M, *et al*. [Spontaneous intrauterine depression skull: myth or reality?]. *Gynécologie Obstétrique Fertil* 2005;33:582–5.
2 Hanlon L, Hogan B, Corcoran D, *et al*. Congenital depression of the neonatal skull: a self limiting condition. *Arch Dis Child Fetal Neonatal Ed* 2006;91:F272.
3 Preston D, Jackson S, Gandhi S. Non-traumatic depressed skull fracture in a neonate or 'ping pong' fracture. *BMJ Case Rep* 2015;2015:pii: bcr2014207077.
4 Heise RH, Srivatsa PJ, Karsell PR. Spontaneous intrauterine linear skull fracture: a rare complication of spontaneous vaginal delivery. *Obstet Gynecol* 1996;87(Pt 2):851–4.
5 Raynor R, Parsa M. Nonsurgical elevation of depressed skull facture in an infant. *J Pediatr* 1968;72:262–4.

Spontaneous ping-pong parietal fracture in a newborn

Mathilde Loire, Maxime Barat, Laurent Mangyanda Kinkembo, Florence Lenhardt and Célestin M'buila

*Arch Dis Child Fetal Neonatal Ed*2017 102: F160-F161 originally published online September 19, 2016
doi: 10.1136/archdischild-2016-311232