

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.



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

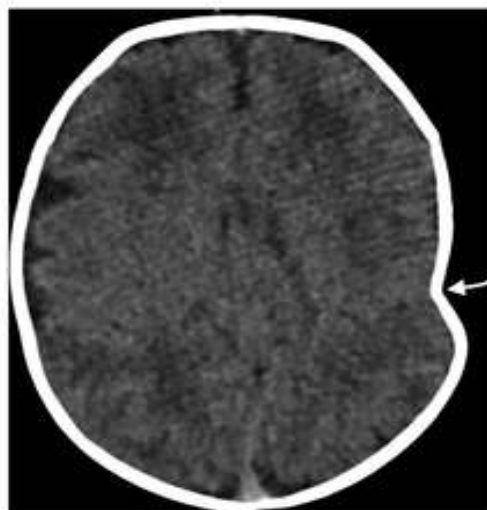


Figure 2 Encephalic CT scan in the axial plane, brain filter, of the infant 24 hours after her birth. It shows the invagination of the parietal bone (arrow) with a little mass effect on the cortex, without intra-axial or extra-axial haemorrhage.

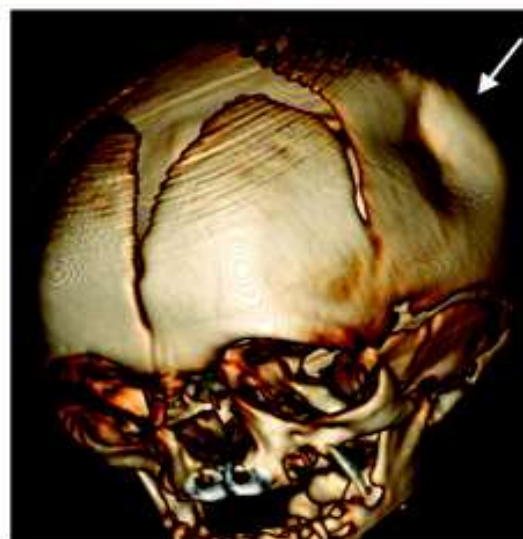


Figure 3 Encephalic CT scan in three-dimensional volume view of the infant 24 hours after her birth. It shows the invagination of the parietal bone without break line (arrow).

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 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'bulu³

¹Service de Pédiatrie, Groupe Hospitalier Carnelle Portes de l'Oise, Beaumont sur Oise, Ile-de-France, France

²Department of Radiology, Groupe Hospitalier Carnelle Portes de l'Oise, Beaumont-sur-Oise, Ile-de-France, France

³Department of Pediatrics, Groupe Hospitalier Carnelle Portes de l'Oise, Beaumont sur Oise, Ile-de-France, France

⁴Department of Obstetrics, Groupe Hospitalier Carnelle Portes de l'Oise, Beaumont-sur-Oise, Ile-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, Ile-de-France 95260, France; mathilde.loire@orange.fr