

## Other full case

## Faulty fetal packing

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## Summary

A male infant was born by emergency caesarean section at 34<sup>+</sup>4 weeks for failed induction of labour. Shortly after birth a depression about the same size as the baby's fist was noted over the right parietal region. After careful consideration of the perinatal history and examination findings, the baby was diagnosed with faulty fetal packing. At 3-month follow-up, the defect had completely corrected without intervention.

## BACKGROUND

Faulty fetal packing occurs in 1 in 10 000 births,<sup>1</sup> however, it is often not recognised and misdiagnosed as a depressed skull fracture. In this case report, we discuss how to confidently differentiate between these two conditions.

## CASE PRESENTATION

A male infant was born by emergency caesarean section at 34<sup>+</sup>4 weeks for failed induction of labour. The indication for induction of labour was preterm prolonged rupture of membranes of 479 h and reduced liquor volume.

The mother was a 38-year-old woman, para 2, with no significant medical history and there had been an uneventful singleton pregnancy.

During the caesarean section, there was significant blood loss and the baby required extensive resuscitation including the administration of O negative blood. After stabilisation, the baby was transferred to the neonatal unit for further management.

At this stage, a depression (about the same size as the baby's fist was noted) over the right parietal region. There was no surrounding bruising or oedema. As this was initially felt to represent a ping-pong fracture, a skull x-ray (figure 1) was performed.

The clinical history was discussed with the radiology team, as the baby had been born by caesarean section without the use of instruments and as there was no signs of acute injury (absence of soft tissue swelling or bruising) the appearance was felt to be more in keeping with a congenital vault depression related to in utero positioning. The long duration of prolonged rupture of membranes and oligohydramnios may have been a contributing factor.

## OUTCOME AND FOLLOW-UP

The baby was followed up in the neonatal clinic at 3 months of age where the skull defect was noted to have completely corrected without any intervention and the baby was developmentally appropriate for age.

## DISCUSSION

Faulty fetal packing, also known as a congenital vault depression, occurs in 1 in 10 000 births.<sup>1</sup> As the fetus'

bones are easily deformable, external pressure can result in a depression of the soft bones of the skull without causing a break in the cortex. Recognised causes of a congenital vault depression include the compressing force of a bony prominence of the pelvis, a uterine fibroid and the fetus' own hand or foot or the body part of a twin.<sup>2</sup>

The radiological appearance in a congenital vault depression is very similar to what is seen in a depressed or ping-pong skull fracture, however, the two conditions have a very different aetiology. In contrast to a congenital vault depression, a ping-pong skull fracture is an acute injury normally caused by obstetric manoeuvres during a difficult delivery.<sup>3</sup> Therefore, differentiation between these two conditions relies more on careful consideration of the



**Figure 1** AP skull x-ray showing a well-defined depression in the right parietal region, without any overlying soft tissue swelling.

perinatal history and clinical examination than on radiological findings.

Treatments that have been used successfully in faulty fetal packing include surgical elevation, manual elevation using digital pressure at the sides of the depression, suction elevation with a breast pump or vacuum

extractor.<sup>2</sup> However, as this case and a number of other case reports<sup>4-6</sup> have shown a full and spontaneous resolution of the depression often occurs over the first few months of life, without leaving any cosmetic or neurodevelopmental sequelae, so simple observation is our preferred approach.

## Learning points

- ▶ Faulty fetal packing, also known as a congenital vault depression, occurs in 1 in 10 000 births.<sup>1</sup>
- ▶ The radiological appearance in faulty fetal packing is very similar to what is seen in a depressed skull fracture and differentiation between the two conditions relies more on careful consideration of the perinatal history and clinical examination than on radiological findings.
- ▶ In faulty fetal packing, a full and spontaneous resolution of the depression often occurs over the first few months of life, without leaving any cosmetic or neurodevelopmental sequelae.

**Competing interests** None.

**Patient consent** Obtained.

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