

Bilateral fractures in a shoulder dystocia delivery

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DESCRIPTION

A male neonate weighing 4170 g (99th centile) was born to a non-diabetic primigravid woman by difficult vaginal delivery at 37 weeks gestation due to right shoulder dystocia. The labour was induced and Neville Barnes forceps were employed for successful delivery. Apart from maternal obesity (body mass index of 36 kg/m²), no other risk factors for fetal macrosomia or shoulder dystocia were noted. After birth, absent right shoulder movement with asymmetrical Moro reflex was noted, raising the possibility of right clavicular fracture with possible brachial plexus injury (BPI). Although left arm mobility was reduced, neurology was normal. Both elbows and wrists were flexed with symmetrical grasp reflex. A chest radiograph was performed, confirming displaced fractures of his right clavicle and left humerus (figure 1). Examination findings at 48 hours were unchanged, and there were no signs of Horner's syndrome or respiratory distress indicating phrenic nerve injury. It was difficult to elicit upper limb reflexes possibly due to discomfort. He made a good recovery with immobilisation, splinting, physiotherapy and regular orthopaedic reviews (figure 2).

Owing to the relative absence of maternal risk factors and an estimated fetal weight of 3700 g, it was difficult to predict the occurrence of shoulder dystocia. Moreover, the last antenatal scan

before delivery showed the presentation to be cephalic and the infant's head to be deeply engaged. As such, a decision was made for induction of labour and there was no consideration to opt for elective caesarean section (ELCS) in the antenatal period as the pregnancy was deemed as 'low risk'.

Clavicular and/or humeral fractures are well-described sequelae of shoulder dystocia which may be associated with BPI.¹ Furthermore, the use of forceps during delivery can also contribute to BPI. However, most cases of BPI will eventually resolve, with fewer than 10% left with a permanent neurological disability.² In the absence of specific signs and symptoms, a humeral fracture with possible associated radial nerve palsy could have been missed,³ especially when right-sided symptoms may mask any left-sided injuries as in our case. Hence, this highlights the importance of a high suspicion index towards bilateral fractures in shoulder dystocia deliveries, especially where there is the use of instrumentation and clinical evidence of reduced or absent limb movements bilaterally. This warrants early imaging of both clavicles including the humeri where indicated to exclude harmful fractures. Furthermore, a thorough neurological and musculoskeletal (assessing for crepitus and bony deformity) examination of the newborn should be undertaken at birth and at 48 hours of age to

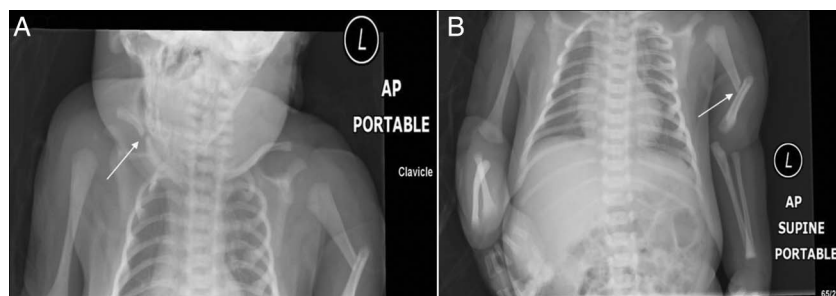


Figure 1 Chest radiograph demonstrating displaced right clavicular (A) and left humeral fractures (B) at birth (shown with arrows).

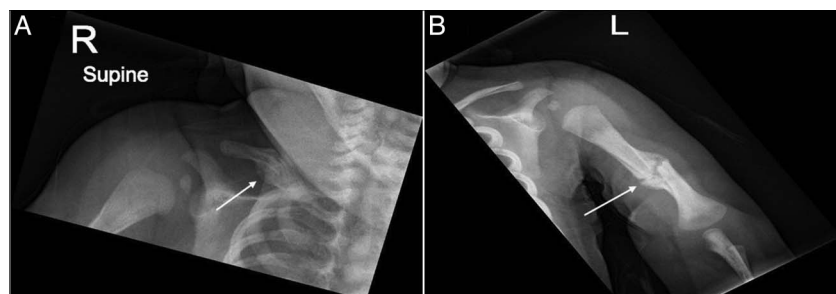


Figure 2 Post-reduction chest radiograph 1 month later demonstrating healing right clavicular fracture (A) and left humeral fracture (B) with callus formation (shown with arrows).



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ascertain the extent of neurological injury and to ensure early intervention. Although the occurrence of bilateral fractures in shoulder dystocia is uncommon, especially in low-risk pregnan-

cies, prompt detection and treatment can aid in good recovery. Fortunately for our case, his BPI fully resolved by 3 months of age with no residual neurological deficit.

Learning points

- ▶ Bilateral upper limb fractures involving different bones are uncommon complications of shoulder dystocia, and can be difficult to recognise due to non-specific signs or symptoms which may also represent neurological injury.
- ▶ In infants born with shoulder dystocia during delivery and are found to have reduced or absent limb movements, bilateral fractures with neurological injury should be suspected.
- ▶ Repeat clinical assessments and early radiological imaging are essential to confirm fractures and determine any neurological damage so as to ensure early appropriate intervention.

Contributors TSET prepared and submitted the manuscript. SD (consultant in charge of the patient's care) and AM identified the images and reviewed the manuscript. All authors were involved in the care of the patient and approved the final manuscript.

Competing interests None declared.

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