DISRUPTION OF THE PELVIC RING DURING SPONTANEOUS CHILDBIRTH

A CASE REPORT

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A young woman sustained disruption of the anterior pelvic ring with bony avulsion of the symphysis pubis during a spontaneous delivery. Anterior external fixation allowed a full functional recovery.

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Disruption of the symphysis pubis is a rare injury during childbirth with an incidence of 0.1% to 0.8%. It is usually seen in elderly primagravida and there are few reports of this injury in younger patients.

We report the case of a young woman who sustained wide separation of the pelvis with bony avulsion of the symphysis pubis during the spontaneous delivery of her second child. She had no history of blunt trauma to the pelvic ring.

CASE REPORT

A 21-year-old white woman of average height and weight gave a history of an uncomplicated delivery of a normally-sized baby after an episiotomy three years earlier. After ten hours in labour in her second pregnancy intravenous oxytocin was given in controlled dosage to overcome uterine inertia and a few minutes later a normal baby girl (2.74 kg; 49 cm; head circumference 33 cm) was delivered spontaneously. There was no indication of cephalopelvic disproportion or any deformity of the birth canal.

Soon after delivery she complained of severe pelvic pain and on the following day was unable to stand. Her symphysis pubis was acutely painful and there was tenderness over her right sacroiliac joint. Radiographs showed bony avulsion at the symphysis pubis with a 3 cm diastasis. Weight-bearing on the right leg caused a vertical displacement of over 1 cm of the pubic rami (Fig. 1). CT showed widening of the right sacroiliac joint, with a vacuum phenomenon in the opposite joint (Fig. 2), but the posterior sacroiliac ligaments were intact.

The pain and inability to walk persisted and high doses of analgesics were needed. It was decided to stabilise the pelvic ring and external fixation was chosen because of persistent drainage from the birth canal. We applied a pelvic universal fixator (Orthofix Srl, Bussolengo, Italy) at the level of the anterior inferior iliac spines with two bone screws in each ilium. Reduction of the pelvic ring achieved an anatomical position of the symphysis pubis (Fig. 3). She was able to stand two days later and left hospital 18 days after delivery. After 7.5 weeks radiographs showed no loss of reduction and the fixator was removed. By 16.5 weeks she could walk normally and support her full weight on either leg (Fig. 4).

DISCUSSION

We have found no other reports of such a displaced injury caused by spontaneous delivery of a normally-sized baby after a previously uneventful pregnancy. Similar injuries have been reported after high-velocity trauma due to either direct force on the hemipelvis or indirect loading through the hips. Pauwels considered that significant separation of the anterior ring is needed to damage the posterior components of the pelvis, and experimental separation of the symphysis has shown that widening of up to 2.5 cm can be tolerated without vertical instability occurring. Additional damage to the anterior sacroiliac ligaments allows a force of 700 N to cause vertical displacement of the pubic rami.
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Fig. 1
Bony avulsion, wide separation and vertical displacement of the pubic rami in a 21-year-old woman one day after spontaneous delivery.

Fig. 2
CT scan showing widening of the right sacroiliac joint with a vacuum phenomenon in the otherwise normal left sacroiliac joint.

Fig. 3
Anterior application of a pelvic universal fixator with anatomical restoration of the anterior pelvic ring.

Fig. 4
At 16.5 weeks a right-sided weight-bearing radiograph shows a stable pelvic ring.
by 7 mm, and a diastasis of over 2.5 cm means that the anterior sacroiliac ligaments have been damaged. The posterior sacroiliac ligaments were intact and the injury may be classified as type B according to Tile. Operative treatment is not recommended when separation of the symphysis pubis is less than 2.5 cm, but this was exceeded in our patient with marked vertical instability.

The administration of oxytocin was controlled and no overdose of this drug was given. The forceful expulsion, even with the usual support from the midwife, caused an injury to the pelvic ring which is usually only seen after major trauma. Possible management included anterior cerclage wiring, anterior plating and external fixation. We chose external fixation because of the persistent, potentially infected drainage from the birth canal.

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REFERENCES