PLATE FIXATION OF DISRUPTED SYMPHYSIS PUBIS

Preliminary Report

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Symphysial separation as a result of injury is uncommon. It has been more frequently reported as a complication of childbirth in the obstetrical literature and, indeed, symphysiotomy is still practised in underdeveloped countries where facilities for Caesarean section are not available. Nevertheless, it is probably more often seen in Britain after accidents.

Rupture of the symphysial ligaments is a distressing condition, pain of considerable severity being aggravated by great apprehension even in the absence of major internal haemorrhage. Because there is frequently an associated disruption of the pelvic ring posteriorly, bleeding and shock can be severe.

Hitherto, treatment has been predominantly conservative. Watson-Jones (1943) advocated reduction by supporting the patient in the lateral position on an orthopaedic table, the reduction being maintained by a plaster spica. This rather difficult technique was superseded by suspending the pelvis in a canvas sling (Holdsworth 1948), which is now the generally accepted method of treatment, both in this country and, with minor modifications, in other European countries (Klingenberg 1955, Lemberger 1963). Almond and Vernon (1959) used transfixion pins in the iliac crests to suspend their patients, in an attempt to overcome the difficult nursing problems of the pelvic sling, but Whiston (1953) was probably the first to publish details of a direct surgical attack on the separation, transfixing the pubic bones with crossed steel pins. Dommisse (1960) wired together two screws inserted into the pelvic bones, but to Judet, Judet, Lord and Orlandini (1965) must go the credit for a systematic surgical attack on the problem.

Since 1964 I have encountered five cases of traumatic disruption of the symphysis. All have been treated surgically by internal fixation. Lessons have been learned from each case.

CASE REPORTS

Case 1—A small three-hole Sherman plate was used. An initial good result was later marred by the screws pulling out of the largely cancellous body of the pubis.

Case 2—A long four-hole plate was fitted but with difficulty. The four pubic rami were fractured, but were well stabilised by the fixation of the symphysis.

Case 3—Reduction of the displacement was extremely difficult. It was necessary to manipulate the individually draped legs in order to bring the fragments together.

Case 4—A specially designed plate (Fig. 1) has rendered the operation simple and the fixation secure, even in the presence of fractured rami.

Case 5—This case is illustrated in Figures 2 to 4.

TECHNIQUE OF OPERATION

The technique has been modified with experience and the current method is as follows. Under a general anaesthetic the bladder is emptied through a self-retaining catheter and the
Case 5—Before and after fixation of the disrupted symphysis pubis. Figure 2—The pelvis on admission. Figures 3 and 4—Two views of the pelvis after fixation.
patient placed supine on a standard operating table. The legs are draped individually to allow easy manipulation, and the lower abdomen is exposed and covered with a transparent adhesive vinyl sheet.

A Pfannenstiel incision is made with its centre 2-5 centimetres above the upper borders of the pubes. The rectus abdominis may be found to be partly detached from its insertion on one side; the recti and pyramidalis muscles should be divided transversely in the line of the incision. By following the posterior surface of the muscle layer distally, the pubic area comes immediately into view and a good 5 centimetres of each superior ramus can be exposed, the medial attachments of the inguinal ligaments being left undisturbed.

Reduction of the displacement is achieved by manipulation of the lower limbs. The plate is fitted along the superior surfaces of the rami, any minor adjustment of its curvature being made with plate benders. The screws are inserted in the plane of the obturator foramina. This will obviate any possible danger to the urinary system, or obstruction to the pelvic inlet in the female. The urethra, even when demarcated by the catheter, is not usually encountered. The wound is closed in layers without drainage.

COMMENT

It is not possible to draw more than impressions from so few cases, and these five demonstrate the development of a technique from its inception. The incision, with transverse section of the abdominal recti, has proved to give a good exposure of the ilio-pubic rami, and no difficulty has been encountered so far in its repair and healing, all the scars being sound, with no evidence of herniation. Infection has not occurred.

The overall benefit of the operation has been remarkable, particularly in the immediate relief of suffering in every case, which alone would seem to justify it, apart from the long-term stability of the pelvic ring which internal fixation affords.

SUMMARY

1. A technique for internal fixation of the disrupted symphysis pubis by an angled four-hole plate is described.
2. In five patients in whom internal fixation was used rapid relief of the severe discomfort caused by symphysial disruption was noted.

The symphysis plates were manufactured by Messrs Zimmer Orthopaedic Limited, Bridgend, Glamorgan.

REFERENCES