ACCIDENTAL DURAL PUNCTURE: IMMEDIATE OR DELAYED BLOOD PATCH

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The immediate effect of extradural blood patch after accidental dural puncture in a woman in labour is described. Extradural analgesia was performed successfully in another site shortly afterwards.

Accidental dural puncture may occur during identification of the extradural space; the frequency of this complication being approximately 0.5% (Bromage, 1978).

The severe headache, which may occur in association with dural puncture, is relieved rapidly when 10 ml of the patient’s own blood is injected into the extradural space (Gormley, 1960, Di Giovanni and Dunbar, 1970). In the following case history, a blood patch was performed soon after dural puncture because the patient was in labour and was suffering from headache of increasing severity.

CASE REPORT

The patient was 33 years of age and in labour for the first time. She was in good health and the pregnancy had been uneventful. During the first stage of labour she was in severe pain and requested extradural analgesia. An 18-gauge Tuohy needle was inserted at L2–3 using a paramedian approach. The extradural space was identified with air using the loss of resistance technique. There was no evidence of dural puncture. The catheter was inserted easily through the needle 1 cm cranially, but on further insertion, the patient suddenly felt a crack in the back of her head. Five minutes after a test dose of 0.375% bupivacaine 3 ml was injected through the catheter it was confirmed that dural puncture had occurred. The catheter was removed and it was decided not to make another attempt at establishing extradural analgesia. An exacerbation of these symptoms, it was decided to seal the dural hole with a blood patch and make another attempt to insert an extradural catheter.

One 18-gauge Tuohy needle was inserted at L2–3, and another at L3–4 (midline approach). The extradural space was identified with loss of resistance to air. There was no evidence of dural puncture. The Huber tip of the upper needle was turned cranially and the lower turned caudally, the latter because the local anaesthetics might otherwise interfere with the dural hole.

Venous blood 10 ml, taken from the patient’s left cubital vein, was injected through the upper needle and a catheter was inserted 2 cm through the lower one. A test dose of 0.375% bupivacaine 3 ml confirmed that no dural puncture had occurred and a further dose of 0.375% bupivacaine 3 ml was injected. Ten minutes later the patient’s headache had been relieved completely and after another 10 min the pain of her contractions had been abolished. The second and third stage of labour passed without incident. She was nursed flat for 24 h and then allowed out of bed. No sign of headache or dizziness occurred and she was discharged in good health on the 5th day after delivery.

DISCUSSION

When establishing extradural analgesia, accidental dural puncture may occur and may cause post-lumbar puncture headache. Numerous methods of treatment have been tried (Bromage, 1978), but the blood patch is well-known and is accepted as the best method if prompt relief is required (Gormley, 1960; Di Giovanni and Dunbar, 1970). Complications are minimal (Di Giovanni and Dunbar, 1970; Abouleish et al., 1975).

In this patient, a blood patch was the only way to treat the increasingly severe headache. An extra-
dural catheter was inserted in a lower space to relieve the pain from her contractions—an accepted procedure shortly after a dural puncture (Craft, Burton and Coakley, 1973). The patient’s headache disappeared immediately after the blood patch had been carried out and there was no further pain associated with her contractions.

Thus, the available evidence suggests that an extradural blood patch is effective and safe, and is the treatment of choice when a dural puncture occurs during labour.

REFERENCES