days after surgery because the risk of late-onset deep-vein thrombosis remains high even after discharge from hospital.^{7,8} In one study⁸ this was seen to be at the expense of an increased risk of haemorrhage of 5.1% in the treatment group and 0.9% in the control group.⁸ This is usually minor, but may result in the formation of haematoma and wound infection.

The National Total Hip Replacement Outcome Study found that pharmacological prophylaxis was used in 88% of patients having elective hip surgery with low-molecular-weight heparin alone in 50%, unfractionated heparin alone in 21% and other anti-coagulants such as aspirin, warfarin and dextran in 5%.⁹ Mechanical methods such as the foot pump, which has been shown to be as effective as enoxaparin in reducing thromboembolism, but with fewer soft-tissue side-effects, was only used by 5% of surgeons as the sole method of thromboprophylaxis.¹⁰

The choice of pharmacological agent is also controversial. We use unfractionated heparin, which has been shown to reduce the incidence of venographically-detected deep-vein thrombosis by 70%.¹¹ Generally, this has, however, been superseded by low-molecular-weight heparin which has been shown to be superior in reducing the incidence of the formation of thrombi and is associated with a lower incidence of HIT (5% for unfractionated heparin and 1% for low-molecular-weight heparin).¹²

There is still much debate surrounding the role of pharmacological thromboprophylaxis in THA. Based on current evidence, it cannot be recommended routinely to all patients. The decision as to whether to anticoagulate or not must lie with the operating surgeon who has to weigh up the risks and benefits. Our case demonstrates well a rare but devastating, complication of the use of heparin. There are few reports in the orthopaedic literature describing loss of a leg after the use of heparin in THR.¹³ Greater awareness of HITTS is needed by all surgeons.

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MERALGIA PARAESTHETICA

A complication of a patient-positioning device in total hip replacement

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We describe three patients who developed meralgia paraesthetica after the use of a well-padded and carefully-placed patient-positioning device in total hip replacement.

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Meralgia paraesthetica is characterised by altered sensation and pain on the anterolateral aspect of the thigh, corresponding to the distribution of the purely sensory lateral cutaneous nerve of the

thigh. The clinical syndrome has an established association with pressure on the nerve. We present three cases of meralgia paraesthetica, which occurred as a result of the use of a well-padded and carefully-placed patient-positioning device during total hip replacement.

Case reports

Case 1. A 56-year-old woman underwent a routine left total hip replacement (THR) in the lateral position using the Hardinge approach under spinal anaesthesia. A patient-positioning system was used, which consisted of three padded bolsters, one for each anterior superior iliac spine and one for the sacrum (Fig. 1). This device was made in the hospital works department. It had been in use for over ten years and was similar in design to commercially-available systems.

Immediately after operation there was bilateral symmetrical sensory loss in the anterolateral aspect of both thighs, but no motor deficit or leg pain. CT of the spine excluded a haematoma

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Fig. 1a

Fig. 1b

The patient-positioning device showing a) the anterior and b) the posterior supports.

related to the spinal anaesthesia as a cause of compression of a nerve root.

Eight days after surgery the left sensory loss had totally resolved and sensation on the right side had significantly improved. At the follow-up at six weeks sensation on the right had fully returned.

Case 2. A 76-year-old woman developed hypoaesthesia, without pain, in the region of the right lateral cutaneous nerve of the thigh immediately after right THR performed using the same supports as in case 1. The symptoms resolved completely during the course of one week.

Case 3. A 76-year-old man who had sustained an intracapsular fracture of the femoral neck underwent a left bipolar hemiarthroplasty using the Hardinge approach, again using the same supports as in the two previous cases. Immediately after operation bilateral sensory loss was noted, but no pain, in the area corresponding to the lateral cutaneous nerve of the thigh. By the second postoperative day the sensory loss on the left had recovered, and at five days that on the right side had significantly improved. By six weeks the latter had recovered completely.

Discussion

The use of separate padded supports for each anterior superior iliac spine gives excellent support of the bony pelvis, even in obese patients, when the lateral position is used for hip surgery.

Schumn et al¹ reported two cases of injury to the lateral cutaneous nerve of the thigh after THR, although these injuries were not in isolation and were associated with palsy of the femoral and sciatic nerves. The authors suggested that a traction injury had occurred perioperatively. We postulate a different mechanism of injury when the lateral cutaneous nerve of the thigh is affected in isolation.

Initially, we felt that the padded supports had been placed slightly medial to the anterior superior iliac spine to allow easier draping and had resulted in a mechanical neurapraxia of the lateral cutaneous nerve of the thigh. We did not perform nerve-conduction studies in our patients as recovery had occurred before they could be arranged. It is evident from a cadaver study by Murata et al² that there may be considerable anatomical variation in the course of the nerve. They showed that 39% of lateral cutaneous nerves of the thigh pass either directly over the anterior superior iliac spine or over the iliac crest within 2 cm of the iliac spine. In 24 patients with meralgia paraesthetica which had failed to respond to conservative treatment Williams and Trzil³ found that the nerve passed up to 4 cm posterior to the anterior superior iliac spine. Neuromata were present as it passed over the iliac crest.

When a subcutaneous nerve passes over a bony prominence and is subjected to compression, it is at risk of neurapraxia. Thus, some patients will suffer compression of the lateral cutaneous nerve of the thigh even with correct placement of well-padded supports. Full recovery from this previously unreported complication can be expected and is usually complete by six weeks after surgery.

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