

DONOR SITE MORBIDITY AT THE ILLIAC CREST: COMPARISON OF PERCUTANEOUS AND OPEN METHODS

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The iliac crest is commonly used as a source for autogenous bone graft, but it may cause significant postoperative morbidity (Cockin 1971; Laurie et al 1984; Summers and Eisenstein 1989). In 1991, Saleh described a percutaneous method of harvesting bone from the iliac crest using a Meunier trephine. We have reviewed two series of patients to compare morbidity after this percutaneous approach and the standard open method.

Patients and methods. From 1985 to 1992 a total of 106 bone-grafting procedures have been performed by the senior author (MS). Of these, 86 (81.1%) were reviewed. In 73 of these procedures (in 58 patients) non-structural

bone graft had been obtained from the anterior iliac crest by one of the two methods, 40 by the percutaneous technique and 33 by an open method with careful reconstruction of the iliac crest. Because of increasing use of the newer method the mean follow-up for the percutaneous group was 16 months compared with 33 months for the open method. The indications were the same and there were no other significant differences between the groups.

Results. The percutaneous technique was associated with significantly reduced postoperative pain, less pain on walking, less sensory disturbance and less local tenderness. Figure 1 shows that postoperative pain was described as moderate or severe by 25% of the percutaneous group, but by 61% of the open group ($p < 0.02$), and also gives the numbers of patients in each group. At latest review, none of the percutaneous group had pain on walking compared with seven of the patients in the open group ($p < 0.05$). Three of the percutaneous group had abnormal sensation around the donor site compared with 13 of the open group ($p < 0.01$). There was local scar tenderness in only one patient in the percutaneous group but in nine of the open group ($p < 0.05$). We found no significant differences between the groups for chronic rest pain, hip muscle power and the ability to lie on the side of the graft.

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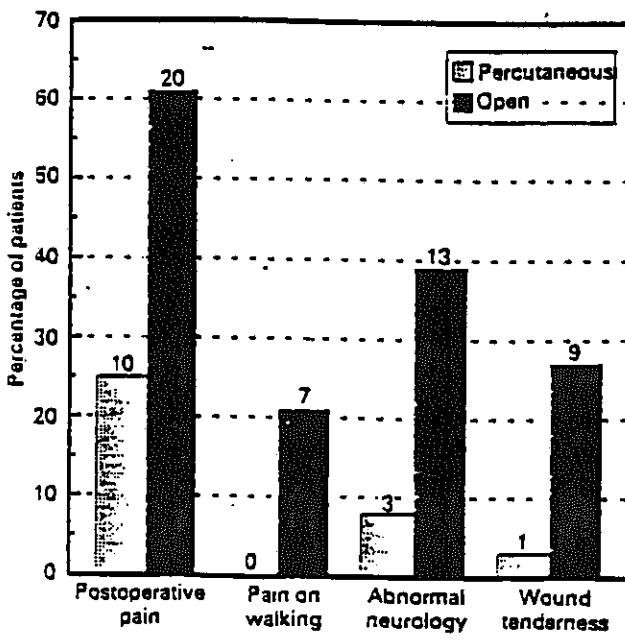


Fig. 1

There were two minor complications: one patient developed a bone spur after an open approach, and one had a small local haematoma after the percutaneous technique. In this patient the protocol had not been

followed and a drain had not been used; the wound settled, however, without surgical drainage.

Discussion. In the percutaneous method, the incision is below the crest, through the muscle bulk of the glutei. In the open method it usually lies over the crest. The percutaneous incision is smaller, and less likely to damage the subcutaneous nerves passing over the crest into the thigh. The technique requires less dissection and less muscle stripping from the outer table of the iliac wing.

For non-structural graft we now routinely use the percutaneous technique provided that not more than 10 ml of bone are required. We have found it safe, reliable and associated with decreased early and late morbidity.

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