Avoidable Complication of McKee-Farrar Arthroplasty

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Three cases of abdominal burns occurring consecutively in a large series of patients undergoing total hip replacement with the McKee-Farrar prosthesis and the use of Simplex methyl-methacrylate cement are reported.

Case Reports

Case 1.—A man aged 78 was noted to have red patches on the abdomen on the first postoperative day consistent with diathermy burns. These became blistered and were a mixture of full and partial-thickness burns. Careful examination of all electrical apparatus, including the lead to the diathermy needle and to the battery-operated device used to stimulate the calves during operation, failed to show any faults.

Case 2.—A woman aged 74 had a history similar to that in Case 1, and her burn was full thickness (Fig. 1).

Case 3.—A man aged 71 who was operated on one week after the other two cases had only partial-thickness burns.

FIG. 1—Case 2. Full-thickness burn in 74-year-old woman.

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None of these cases required other than dry dressing to achieve healing, and grafts were not necessary.

Comment

In each of these three cases the anterolateral approach to the hip was used with the patient lying supine. It was the surgeon's habit to place any excess cement on the abdomen while waiting for it to "set." The soft cement placed on the drapes moulds to the shape of the underlying abdomen and is separated from the skin by a single thickness of linen.

Crude tests were done on the cement by using approximately the thickness of the cement usually put aside and measuring the temperature at the lower surface. The temperature reached was in the order of 100°C, and was maintained for some minutes (Fig. 2). The temperature in the operation site is

FIG. 2—Pattern of cement temperature.

probably not so high, and the effect of conduction via the prosthesis would be to lower it more rapidly. Wiltse, Hall, and Steneshjem 1957 discussed the difficulties associated with the heat of polymerization in their experiments and the effect on the rise of temperature of different thicknesses of cement, but their pattern of temperature rise and fall was similar to that noted here.

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Reference

Wiltse, L. L., Hall, R. H., and Steneshjem, J. C. (1957). *Journal of Bone and Joint Surgery*, 39A, 961.