Bert J M. Dislocation/subluxation of meniscal bearing elements after New Jersey low-contact stress total knee arthroplasty. Clin Orthop 1990; 254: 211-5.

Buechel F F, Pappas M J. New Jersey meniscal bearing knee replacement. United States Patent 4309778, 1982.

Buechel F F, Pappas M J. New Jersey low-contact stress knee replacement system. Ten-year evaluation of meniscal bearings. Orthop Clin North Am 1989; 20 (2): 147-77.

Weaver J K, Derkash R S, Greenwald A S. Difficulties with bearing dislocation and breakage using a movable bearing total knee replacement system. Clin Orthop 1991; 290: 244-52.

Fracture of the hip after knee arthroplasty—an unusual case with pain in the knee

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Submitted 00-05-21. Accepted 00-10-19

A 73-year-old man had a total knee arthroplasty of the left knee due to arthrosis with varus deformity. Before the operation, he had been housebound for 3 months due to severe pain. After surgery, he used a walker for 2 months and then a single cane.

6 months postoperatively, he had had severe pain for 1 week at the medial aspect of the knee, but no history of trauma. Physical examination revealed slight swelling of the calf and knee. Radiographs showed good alignment of the prosthesis. Blood count and chemical analysis were normal, with a sedimentation rate of 50 mm during the first hour.

Displaced subcapital stress fracture of the hip.

A bone scan with 99-Tc-MDP and gallium showed a slightly increased isotope uptake surrounding the prosthesis with no further uptake elsewhere. A low-grade infection was suspected, but culture from knee aspiration was negative. 7 days later, the patient was unable to walk. The pain had then spread to the upper thigh, limiting hip movements.

Radiographs showed a displaced subcapital fracture of the hip (Figure). A bipolar hemiarthroplasty was performed. 1 year after the operation, the patient is pain-free and ambulatory with one cane, has no pain or symptoms in the hip or knee.

Discussion

Subcapital stress fracture following total knee arthroplasty is very rare. Only 16 cases have been reported in the literature, and 15 of them presented with ipsilateral hip pain (Lesniewski and Testa 1982, McElwaine and Sheehan 1982, Brooks 1987, Fiff 1988, Hardy et al. 1992, Palance et al. 1994, Raws et al. 1995) and 1 case presented with knee pain (Guss 1997).

The commonest etiology of these stress fractures seems to be severe osteoporosis in rheumatoid arthritic patients receiving steroid therapy. Many case reports in the literature have this etiol-

ogy (McElwaine and Sheehan 1982).

In cases of osteoarthrosis, the etiology could be changes in the forces surrounding the hip and increased mobility following successful arthroplasty in patients whose osteoporosis has increased after long immobility. We believe that our patient typifies this etiology.

Most of the patients sustained their fracture about 6 months following the operation, but the time ranged from 6 weeks to 16 months.

Low-grade infection was suspected in our patient, but was not confirmed by the gallium scan and knee aspiration. The negative 99-Tc-MDP scan performed 8 days after pain started is surprising because it is almost always positive after a stress fracture, although such findings may be delayed in patients with osteoporosis (Wilson 1981, Salvin et al. 1986).

Brooks S. Ipsilateral subcapital fracture of the femoral neck following total knee arthroplasty. J R Coll Surg Edinb 1987; 32: 366-7.

Fiff G. Stress fracture of the femoral neck following total knee arthroplasty. J Arthroplasty 1988; 3: 347-50.

Guss D A.Hip fracture presenting as isolated knee pain. Ann Emerg Med 1997; 29: 18-20.

Hardy D C R, Delince P E, Yasik E, Lafontaine M C. Stress fracture of the hip. An unusual complication of total knee arthroplasty. Clin Orthop 1992; 81: 140-4.

Lesniewski P, Testa N. Stress fracture of the hip as complication of total knee replacement. J Bone Joint Surg (Am) 1982; 64 (2): 304-6.

McElwaine J P, Sheehan J. Spontaneous fracture of the femoral neck after total knee replacement. J Bone Joint Surg (Br) 1982; 64: 323-5.

Palance M D , Albared J , Seral F. Subcapital stress fracture of the femoral neck after total knee arthroplasty. Int Orthop 1994; 18: 308-9.

Raws M L, Patsalis T, Gregg P J. Subcapital stress fracture of the hip complicating total knee replacement. Injury 1995; 26: 421-3.

Salvin J D, Matthews J, Spencer P P. Bone imaging in the diagnosis of fractures of the femur and pelvis in the 6th to 10th decades. Clin Nucl Med 1986; 11: 328-30.

Wilson M A. The effect of age on the quality of bone scans using technetium-99m pyrophosphate. Radiology 1981; 139: 703-5.