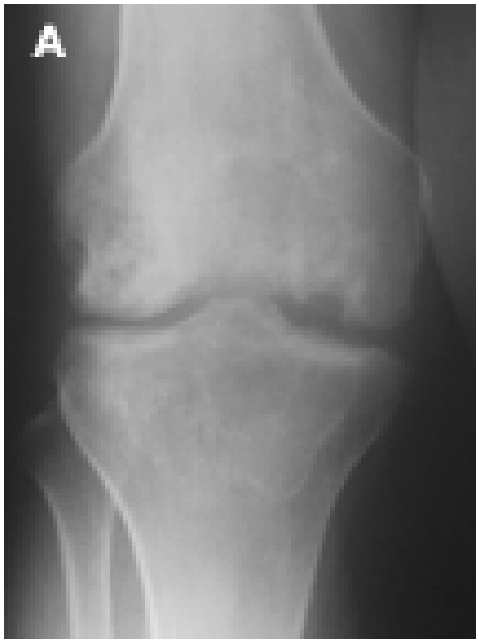
Chief Complaint/History of Present Illness

This fifty-five-year-old male has a long-standing history of ulcerative colitis. His acute episodes have been treated with high dose steroids. Recently he has developed severe right knee weight-bearing discomfort. He also has pain at rest and at night. The joint pain is confined to his right knee only. He also has a large joint effusion which limits his movement. He denies generalized malaise, fever, or erythema to the knee joint. Anti-inflammatory medications have not helped. He is unable to walk without the use of a cane.

Physical Exam
5'11"
185 lbs

Clinical examination demonstrates a severe antalgic gait without the use of a cane. With the use of a cane there is a toe touch type of gait disturbance. He has a 30 degree fixed flexion deformity which further flexes to 95 degrees, a large joint effusion , tricompartmental crepitus, and generalized tenderness.

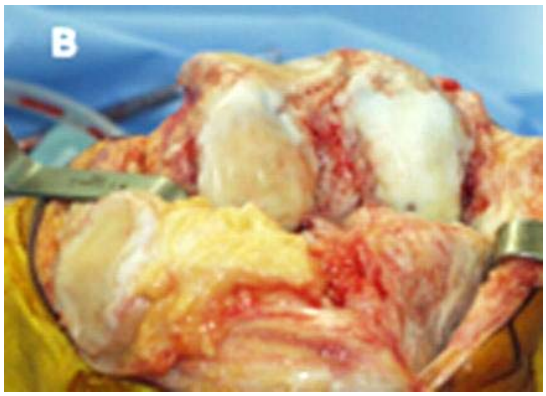
Plain x-rays demonstrate diffuse patchy osteopenia of the distal femur, patella, and proximal tibia with well maintained joint spaces and some early flattening to the medial femoral condyle.



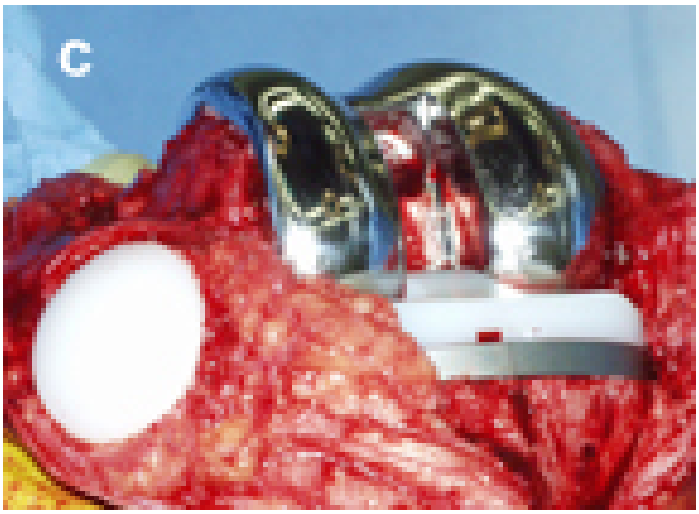
An MRI scan demonstrates diffuse distal femoral avascular necrosis(not shown), with an osteochondral fragment to the medial femoral condyle.

Clinical Course and Follow-up

Biological reconstruction is discussed and dismissed due to the global area of distal femoral necrosis



A cruciate retaining total knee arthroplasty is performed, aggressive physical therapy is required to restore full extension that is obtained at the time of surgery. A Dyasplint [TM] is utilized to assist in regaining extension, and stretchiing out the hamstrings and joint capsule. Three months postoperative he has 0-110 degrees of flexion. He walks with no gait disturbance and is pain-free. Two years postoperatively his result remains excellent.



Decision Making Factors

1. Low demand, fifty-five-year-old male
2. Will require continued use of steroids in the future to manage episodes of ulcerative colitis possibly jeopardizing a biological reconstruction
3. Global nature of avascular necrosis prevents the use of a biological repair such as autogenous bone grafting, or osteoarticular allograft treatment
4. Total knee replacement is the only realistic answer

Legends

A; standing AP x-ray demonstrates normal tibiofemoral joint space, osteochondral defect to medial femoral condyle, early peripheral lateral osteophytes, and patchy sclerosis and lucency in the distal femur compatible with avascular necrosis

B; appearance at open arthrotomy of discolored articular cartilage which very easily is manually peeled off the distal femur

C; intraoperative appearance of total knee prosthesis

Courtesy of Tom Minas MD, and Tim Bryant RN, Cartilage Repair Center, Brigham and Women's Hospital, Boston MA USA