Hip pain in a young adult – 2

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This month, Dr Solomon presents another example of hip joint disease in a young adult. What treatment options are available to this patient, and what results can be expected?

Case presentation

History and examination

A 38-year-old man presents with right groin and thigh pain that radiates to the knee. The pain affects all activities of daily living and he is experiencing pain at rest. He suffered from Perthes' disease at 10 years of age.

Examination reveals an antalgic gait with a positive Trendelenberg sign. There is complete loss of internal rotation of the right hip and he has a 10° fixed flexion deformity with restriction in flexion and abduction compared with the opposite side.

Diagnosis and treatment

Radiography shows osteoarthritis with loss of joint space, and osteophytes and sclerosis affecting the right hip (Figure). In adults under the age of 45, hip osteoarthritis is usually caused by pre-existing hip pathology (such as previous Perthes' disease, old slipped epiphyses, hip dysplasia, avascular necrosis and trauma) – this patient's osteoarthritis is secondary to Perthes' disease.

The treatment options that should be explored are:

- weight loss (if the patient is significantly overweight – loss of every 1 kg equates to a reduction of 3 kg in force across the hip)
- nonimpact activities such as swimming and cycling
- NSAIDs (including COX-2 specific inhibitors)
- 'natural products' such as glucosamine and sodium chondroitin sulfate
- intra-articular steroid injections (under x-ray control)
- hip replacement surgery.

Despite nonoperative therapy, the patient continued to have pain and disability, and a total hip replacement was performed. He is now pain free and has returned to his usual activities.

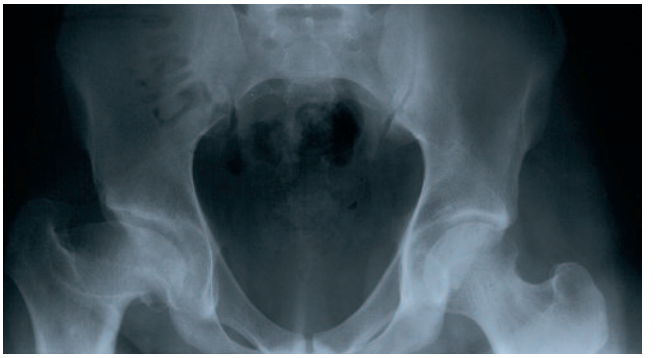

Figure. Radiograph showing osteoarthritis with loss of joint space, and osteophytes and sclerosis in an hip that is abnormally shaped as a result of Perthes' disease.

Discussion

Hip replacement surgery is a quality of life procedure and should be performed only when nonoperative treatments have failed. In the arthritic hip of an elderly patient, most prostheses used now will 'out live' the patient. The young arthritic hip has a good chance of requiring revision hip surgery because of prosthesis failure, such as wearing out of the bearing surface or loosening of the prosthesis.

In young patients, the current trend is to use uncemented components that allow bone to grow into the prosthesis. However, the choice of bearing surfaces of the ball and socket is more important. Metal-on-polyethylene (the standard for the past 30 years) results in the production of fine polyethylene particles that can eventually cause prostheses to loosen; hence, there is a move away from polyethylene in younger patients. Ceramic-on-ceramic and metal-on-metal bearing surfaces have shown to have significantly lower wear rates in the laboratory and are gaining popularity for younger patients.

A relatively new prosthesis, currently in limited use for the young patient, is the hip resurfacing replacement that conserves femoral bone stock. This prosthesis has the potential to make revision surgery much easier, should the surgery be required.

Summary

Young patients with hip arthritis requiring joint replacement surgery need to be well informed about the risks and benefits of surgery and the real possibility of the need for revision hip surgery (the revision rate in young patients varies between 2 and 10% at 10 years after primary hip replacement). Running and skiing sports are not recommended; however, at this early stage the newer resurfacing replacements appear to be more durable. MT

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