18 Assessment of the Patient

Introduction

Assessment of the patient and the accurate recording of the findings should be an integral part of patient management both before primary surgery and at revision surgery. Only in this way can the problem be studied objectively and the findings used with benefit for the future. This aspect becomes even more important at follow-up.

Patient pain is a difficult parameter to assess. Memory of painful experiences is so short as to allow the human race to survive, yet single episodes may be so impressive as to make or break a character.

Patient function is a parameter which would appear to be more easily assessed. This may be so in terms of ordinary day-to-day activities; however, to assess function over time and distance and in terms of the load on the hip joint and velocity and to then translate these results into load and sliding distance at the hip level, is something that has yet to be carried out scientifically, without resort to anecdotes.

Before primary surgery is undertaken accurate records of clinical assessment are essential. In revision cases examination of the range of movements must not take priority over the study of the radiographs.

Assessment of the Arthritic Hip

It is interesting to note how rarely the type and distribution of pain in the arthritic hip is considered when a patient first presents for surgery. This is probably because by this stage the radiograph has already been examined and the pattern for consultation set. The hip is a deeply seated joint and any pain related to it is distributed, in a referred manner, along the nerves supplying it (Fig. 18.1).

The exact source of pain in the arthritic hip has not been established with any certainty. The theory of increased intramedullary pressure had its protagonists in the era of intertrochanteric osteotomy. The capsule is unlikely to be the source of pain. The capsule is not excised as a part of the routine low-friction arthroplasty, yet the pain is completely relieved.
It can be argued that initially the source of pain is the subchondral bone of the femoral head, then the destroyed acetabulum. This is probably true in early cases of osteoarthritis, when cartilage is lost on the femoral head but still remains covering the acetabulum. A cemented femoral endoprosthesis brings dramatic relief of pain until the acetabulum becomes eroded. The pain then presumably arises from the eroded acetabulum. Total hip arthroplasty, again without excision of the capsule, affords complete pain relief.

The recording of the assessment can be adequately made using the d’Aubigne and Postel (1954) method as modified by Charnley (1972). Any method of recording which attempts to combine the clinical examination, radiographic findings as well as subjective assessment of the result of the operation is probably too complex to be of practical value. It also fails to appreciate that with increasing follow-up the radiographic appearances progressively take precedence over the clinical picture. The radiographic assessment, or rather description, of the arthritic hip can usefully and unemotionally be carried out according to the radiographic morphology proposed by Charnley (Wroblewski and Charnley 1982).

**Assessment of a Patient with Failed Total Hip Arthroplasty**

**Clinical History**

The clinical aspect of the problem in cases of a suspected failed total hip arthroplasty is no less important than in primary surgery. It is essential to get to know the sequence of the relevant events leading up to and following the primary operation.

Following total hip arthroplasty any problems relating to wound healing must be recorded. Swelling, redness, tenderness, discharge, repeated dressings or prolonged courses of antibiotics, in hospital or after discharge, suggest sepsis. Referral for out-patient physiotherapy in the post-operative period suggests that the arthroplasty never completely fulfilled the patient’s expectations. (What is the logic of advocating exercises for a failed arthroplasty?)

Thus a patient who has never been completely relieved of pain is very likely to have a deep infection. A patient who after initial success and a return to normal activities later complains of pain, discomfort, limp, gradual shortening of the operated leg or the need to use support has loosening of the components, usually of the stem. A patient who after several years of spectacular function complains of sudden severe pain is probably telling you that the stem has fractured. Sudden immobility in the early post-operative period indicates dislocation. In the vast majority of cases the likely problem can be predicted provided good quality serial radiographs are carefully examined.

**Pain in Failed Total Hip Arthroplasty**

A patient with a total hip arthroplasty finds himself in a new situation, with an implant that has no intra-articular sensation. The articular surfaces can no longer be the source of pain. Phantom pain following internal amputation (and total hip arthroplasty is such a procedure) has yet to be described. Whether the artificial joint is lubricated by “synovial” (actually bursal) fluid, blood or pus will make no difference to the articulation itself. Pain will only be present if there are local or systemic effects of the complication involving soft tissues, bone or the bone-cement junction.

That the acetabular side of the articulation does not often lead to the patient’s symptoms is not generally recognized. An uncemented acetabular component can function perfectly for many years so there is no reason why a frankly loose socket should be symptomatic. This may be the fact which has encouraged surgeons to perform various types of uncemented total hip arthroplasty without them actually realizing the reason for the apparent short-term success.

The analogy between a normal tooth and a well-cemented femoral stem is probably reasonable. Both can and do support a certain load and can be accepted as being “soundly fixed” for the purpose of the design and function. Both can be extracted with relative ease or made to fail when the load imposed exceeds the level allowed by the fixation or when the fixation has been inadequate. In such situations the symptoms will be produced at lower levels of function. Conversely, with increasing age and decreasing level of activity even inadequate fixation may allow a certain level of function which can be regarded as adequate or even normal.

In a normal femur the load is transferred through the femoral cortex. In a total hip arth-