

Hip involvement in ankylosing spondylitis and poor function but successful outcome with early total hip replacement

Evaluation of: Vander Cruyssen B, Muñoz-Gomariz E, Font P et al.: Hip Involvement in ankylosing spondylitis, epidemiology and risk factors associated with hip replacement surgery. *Rheumatology (Oxford)* 49(1), 73–81 (2009). Destructive hip disease is highly prevalent in ankylosing spondylitis, especially for those with young age of onset. Suffering is significantly high and functional outcome is inevitably poor. Early total hip replacement keeps people at work and relieves suffering, but, regrettably, is often delayed by orthopedic surgeons who feel the patient is too young. We now know that total hip replacements survive well in spondylitic patients and benefit family members and society gain by such management.

KEYWORDS: ankylosing spondylitis ■ hip disease ■ spondylarthritis ■ total hip replacement

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Eduardo Collantes and Vander Cruyssen and colleagues are to be congratulated for their multicenter study focusing on hip involvement in ankylosing spondylitis (AS). The study included patients from two centers in Belgium, two in Mexico and several in Spain. It is self-evident that only a multicenter study can provide sufficient patients to answer the questions posed.

For reasons that are unclear, clinicians often ignore the hip, in spite of hip disease being of paramount importance to those patients with AS who develop hip involvement complicating their spinal dysfunction. Naturally, hip disease, from the point of view of both patients and society, is very expensive in terms of cost relating to suffering, loss of work, early retirement and therapy.

The authors suggest that between 24 and 36% of subjects with AS have hip involvement and in their population no less than 5% needed hip replacement surgery. Not surprisingly, overall, those with hip involvement had less function than those without hip involvement. In essence, patients with younger age of onset are most likely to require hip replacement surgery.

It is not only function that is poor in those with hip involvement – as defined by the Bath AS Functional Index (BASFI) [1] – but disease activity is also worse (as defined by the Bath AS Disease Activity Index [BASDAI] [2]), given the pain and stiffness.

Furthermore, there is an impact on global status (the Bath AS Global Score [BAS-G] [3]) – and not surprisingly, on the radiological status (the Bath AS Radiology Index [BASRI] [4])

considering that hip involvement is a component of the radiological score with a number ranging from 0 to 4 where 0 is normality, 1 is minor change, 2 is moderate change, 3 is severe change and 4 is end-stage hip disease, or indeed a replaced hip.

In our experience, the distressing aspect of hip disease in AS relates to the fact that, as noted in this study, it is the young patient with early-onset disease who suffers most, and for decades the tragedy has been that orthopedic surgeons were reluctant to replace hips in young individuals. Of course, to the teenager with crippling disease, or the young adult aged in his or her 20s, there is no comfort being told that they are ‘too young’ for hip replacement, considering that it is now that they want to get on with their life in terms of social, family and professional activities.

The survival of a replaced hip may only be 10 or 15 years, and they would then require a revision or a second hip replacement. Needless to say, such a therapeutic option was perceived with dismay by most of the young patients, who understandably felt that it was now that they needed a new hip, and they had no wish to wait for 10 or 15 years.

In 2001 we evaluated all our patients who had received a total hip replacement [5]; in essence, we reviewed 4567 consecutive patients with AS and carried out an analysis on the 156 recipients (3.4%) of total hip replacements. Among these individuals, 309 hips had been replaced. Of these 309 hips, 255 were primary replacements, and 54 were revisions, and 64% of the total number of patients had bilateral replacements.

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In terms of survival of the individual hips, the 10-year survival revealed a 90% success rate with figures for 15 and 20 years' survival of 78 and 64%, respectively, for the original hip, and comparable figures for a revised hip replacement was 73 and 55% at 10 and 15 years' survival, respectively. In terms of the revisions, the figure at 20 years' survival was also 55%. Thus, the survival characteristics of hips given to relatively young patients has been extraordinarily successful.

In summary, the survival characteristics of total hip replacements in young spondylitic patients has been extraordinarily successful.

Outstanding issues for the future relate to whether early judicious use of anti-TNF agents will have a preventive role in terms of serious hip involvement in those with aggressive onset AS. Intuitively, the answer must be yes, but only time will tell.

If indeed early therapy is efficacious, then the cost-effectiveness of anti-TNF agents will be even more impressive considering that patients will have less time off work and, on the balance of probabilities, will be able to avoid early retirement, thus benefiting the individual him/herself and, of course, society.

For those unfortunate individuals in whom, regardless of anti-TNF therapy, hip involvement continues relentlessly, then early surgical intervention will still be required and orthopedic surgeons must be encouraged to carry out such therapy, in spite of their preconceived pessimistic views regarding the survival of total hip replacements in young individuals.

One earlier small epidemiological study focused on migration issues. Bernard Amor and colleagues noted a high prevalence of end-stage hip disease in AS patients in North Africa, and demonstrated that when the North Africans migrated to Paris (France), the onset of disease was later in the migrated population of spondylitics, implying less frequent hip involvement. They reasoned that the early-onset disease in North Africa related to environmental factors and provided a hypothesis that early-onset disease was particularly prevalent in those without refrigeration at home, suggesting that infection may have precipitated

earlier age of onset disease, and therefore more aggressive hip involvement, with the inevitable catastrophic outcome.

It would be interesting to know whether the present study reveals any differences in age at onset of AS in different parts of the world, and one would assume that these data could be readily available in terms of their data collection.

Migration studies are particularly powerful considering that the genetic background remains constant and it is only the environment that changes.

Although the authors suggest that there are different definitions for hip involvement, and that this could lead to bias, the advantage of hip involvement in AS is that end-stage hip disease is more readily defined and these data are therefore likely to be particularly robust.

In terms of diagnosis, the authors question whether hip involvement can best be evaluated by history taking, the measurement of intermalleolar distance on adduction or on the hip internal rotation, or a combination of these factors.

My own belief is that patients are very aware if they have one or both hips involved in the disease and are generally good witnesses as to the distribution of underlying pathology.

In terms of the future potential for anti-TNF therapy to reduce the progression of destructive hip disease, the authors point out that sulfasalazine and methotrexate have little or no effect on axial disease and are recommended only in patients with peripheral involvement.

Again, my own belief is that here peripheral arthropathy relates to joints more distal to the hip and I have seen no evidence that sulfasalazine or methotrexate are beneficial for hip involvement.

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Executive summary

- Hip involvement is highly prevalent in ankylosing spondylitis.
- Patients with a young age of onset suffer significantly.
- Hip involvement translates into poor function, loss of work and financial cost to patients and society alike.
- Total hip replacement is typically highly successful, but is often delayed by orthopedic surgeons who anticipate a poor outcome.

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