The Headache of Back Pain

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Short Communication

Patients presenting with pure low back pain are among the most challenging problems to deal with for a spine surgeon. In many cases it already becomes clear that there are no surgical options for a particular patient and they are referred to (often once again) physical therapy, cognitive training, pain clinics etc. But in a small number of patients the spine surgeon’s attention gets caught by some characteristic features in the patient’s history and images. These are usually patients of around 40 years of age presenting with a single level discopathy and a history of “mechanical back pain”. Discogenic pain is assumed to originate from nerve in growth into the innermost disc mediated by proinflammatory cytokines [1,2].

Although surgery in these patients is still under heavy debate there are many surgeons who would consider a surgical option. These options usually consist of a fusion using one of the many available techniques or a disc replacement. There has been an enormous surge in fusion surgery where the proper indication can raise doubt.

The key to a good result lies in proper patient selection. And it is exactly this feature that makes dealing with the problem so challenging. First of all there is the patient’s history of “mechanical” back pain. This is understood as pain arising during activities and subsiding when resting or lying flat. The daily course of complaints and the influence of rest, mobility, and posture have been identified as relevant indicators [3,4]. In a recent study the presence or absence of a positive “loading factor” was unrelated to outcome [5].

Imaging usually shows a single level discopathy (“black disc”) with signs as described by Modic [6]. The etiology of these changes is under debate [7-10]. In our recent study we could not find a clear predictive value of Modic changes for outcome, as also reported by Lautsen et al. and Ohtori et al. [5,11,12].

Other than MRI one of the still more or less standard investigations is a discography of the affected level, often combined with an adjacent level for reference [13]. The evidence for the usefulness is however weak and it has been suggested that the injection may even lead to accelerated degeneration [14-18]. This is especially critical when investigating non symptomatic discs. In our study the test was of no value [5]. Not so widespread is the application of a pantaloons cast, covering the lumbar region up to about T10 and one thigh of the patients choice. This is worn as long as feasible or till a clear result in the form of pain reduction of > 50% has been achieved. In our study the test proved to be valuable in a subset of patients without prior surgery [5]. We suggest that other than physical properties in undergoing this cumbersome test there is also an assessment of the patients mind set and determination for a good outcome.

So, after all these difficulties in determining the right patient, how do we find the best treatment? In a retrospective analysis of 262 patients with a follow up of up of 2 to 9 years the result was satisfactory in about 80% [19]. The cohort included patients with different types of fusion as well as total disc replacement (TDR). In an overview Berg concluded that TDR was at least as good as fusion especially on the short term [20]. This is in keeping with my own experience over 15 years. Many recent trials however show that fusion surgery does not produce better results than conservative treatment [21,22]. Where this may hold true for the treatment of degenerative disc disease (DDD) in the general population there are subsets of patients that will truly benefit more from surgical treatment. Research should focus on identifying parameters that have a good predictive value for outcome.

References


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