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Baseline MRI and Its Predictive Usefulness in Chronic Backpain Thirteen Years Later

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Udby and colleagues are to be congratulated for their interesting study titled *The Association of MRI Findings and Long-Term Disability in Patients With Chronic Low Back Pain* published in Global Spine J. 2021;11 (5):633-639,[1] reaching a decent number of participants (170/204) from an older trial (2004-5)[2] and trying to provide a 13-year follow-up in the predictive use of a baseline MRI in backpain.

Admittedly their title, at first glance, gives the impression that what is to be discussed is a follow-up study to assess the correlation of spinal MRI findings and chronic low back pain. Instead, the authors tried to look back at those patients who now suffer with low back pain and searched for any correlations with their original spinal MRI 13 years ago.

The methodology may be pragmatic in that it aimed to provide an assessment of the prognostic usefulness of a baseline (low field, 0.2T) MRI for backpain 13 years later. It included information – both at baseline and at 13 years – from questionnaires; demographics; antibiotic usage; history of surgery. Other than cost or logistics, was there any disadvantage in pursuing an MRI assessment of the radiological findings as they may have evolved after 13 years? Are we assuming that the structural findings could not have changed, worsened or perhaps improved? Or that other findings may not have emerged?

Accepting that this study limited itself to looking at the potential physical correlates of backpain, we can only draw attention – and possibly suggest a future follow up study – to the facts that:

- Only 3 radiological parameters were selected for assessment/correlation: disc degeneration; facet degeneration; and Modic changes.
- There was no assessment of paraspinal musculature, its atrophy or fat infiltration.
- There was no assessment of the sagittal spino-pelvic alignment, the lumbar lordotic curvature or the sacro-iliac joints, and any other concepts which may have evolved over the last 13 years.
- MRI findings exist in many asymptomatic patients, and this study has not clarified its control population, or whether the subjects had continuous, non-continuous or recurrent pain, or indeed other pain.[3,4] [again Goubert et al 2017]

The main outcome of the study is that severe disc degeneration and facet joint degeneration were not associated with long-term low back pain. An interesting, and unexpected, observation of the present study was that Modic changes were associated with less long-term disability. It is worth noting that no participant was on long-term antibiotics. Others have reported a strong association between Modic changes and low back pain.[5]

Overall, this thought-provoking and challenging study design has been successful in lending further support to the fact that a physical model of back pain is no longer the predominant one. The modern belief is a biopsychosocial model.[6-8] A better understanding – and accepting – that long-term back pain seems to be a biopsychosocial phenomenon rather than just purely a physical problem is important as it will dictate the nature of any attempted management planning.

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