



Sacroiliac joint pain: is the medical world aware enough of its existence? Why not considering sacroiliac joint fusion in the recalcitrant cases?

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Provenance: This is an invited article commissioned by the Section Editor Ai-Min Wu (Department of Spine Surgery, Zhejiang Spine Surgery Centre; Orthopaedic Hospital, the Second Affiliated Hospital and Yuying Children's Hospital of Wenzhou Medical University; The Key Orthopaedic Laboratory in Zhejiang Province, Wenzhou Medical University, Wenzhou, China).

Comment on: Dengler J, Kools D, Pflugmacher R, *et al.* Randomized Trial of Sacroiliac Joint Arthrodesis Compared with Conservative Management for Chronic Low Back Pain Attributed to the Sacroiliac Joint. *J Bone Joint Surg Am* 2019;101:400-11.

Submitted Jun 18, 2019. Accepted for publication Jun 27, 2019.

doi: 10.21037/jss.2019.06.11

View this article at: <http://dx.doi.org/10.21037/jss.2019.06.11>

Sacroiliac joint (SIJ) pain is a common contributor to low back pain, present in 10–30% of patients with chronic low back pain (1-5). SIJ pain impairs quality of life similarly to other spine conditions (6,7). Non-surgical treatments, such as physical therapy, chiropractic, intraarticular SIJ steroid injections and prolotherapy have minimal evidentiary support. Two small trials of periarticular corticosteroids (8,9) and radiofrequency neurotomy of sacral nerve root branches (10,11) suggest short-term therapeutic benefit. No published high-quality studies support long-term effectiveness of any non-surgical treatment for SIJ pain.

Open fusion of the SIJ, first described in the early 1900s (12,13), may provide benefits (14), but its use is less common in the era of minimally invasive surgery (15), almost certain due to its invasive nature and prolonged recovery. Minimally invasive fusion of the sacroiliac joint (SIJF) is an increasingly accepted surgical option for SIJ dysfunction. Multiple devices and approaches are currently available, including devices for lateral transiliac fixation/fusion of the joint and devices placed through a posterior approach. The device with the most published clinical evidence is triangular titanium implants (TTI) with a porous surface. Evidence for this device to support improvements in pain, disability and quality of life derives from 3 prospective clinical trials (16-18), numerous case

series (19-24) and comparative case series (25-27).

iMIA is a recently published prospective multicenter randomized controlled trial from Europe (28). In this study, patients with carefully diagnosed SIJ pain were assigned at random (1:1 ratio) to either non-surgical management, comprised mainly of physiotherapy, or immediate SIJ fusion with TTI. Treated subjects returned to clinic for evaluations at 3, 6, 12 and 24 months after treatment initiation. Authors assessed multiple measures, including self-reported outcomes (pain, disability, quality of life, satisfaction, walking distance, ambulatory and work status, global comparison to baseline), physical function and opioid use. The study showed marked improvement in all measures in the surgical group with only minor changes in the non-surgical group. The proportions of subjects with clinically important improvements in pain and disability were far higher in the surgical group compared to the non-surgical group (79% *vs.* 22% for a change of at least 20 points in leg pain and 64% *vs.* 24%). Other advantages of the study were use of a semi-objective functional test (active straight leg raise test) (29), which showed large differences in support of surgery and speaks to concerns that most other outcomes reported were subjective in nature. Consistent with positive findings in support of surgery, opioid use decreased in the surgical group but was unchanged in the non-surgical group.

From a safety perspective, the incidence of postoperative outcomes in the surgery group was low, with a low rate of revision surgery (1 case of nerve root impingement due to device misplacement). Clinical outcomes were supported by radiographic evaluation by an independent assessor, which showed no implant breakages or migrations and high rates of bone apposition to the device. Somewhat disappointingly, intraarticular fusion was not commonly observed. It is possible that intraarticular fusion may take up to 5 years (30); in the meantime, clinical responses at 24 months appeared in this study to be sustained.

The findings of this study are consistent with our experience, in which surgical treatment using the same device was associated with large improvements in pain and disability, along with marked decreases in opioid use, where as non-surgical treatment was associated with poor clinical outcomes, worsened job status and increased opioid use (31). The diagnostic algorithm we use to diagnose SIJ pain is identical to that used in Dengler *et al.* Using this approach, we observed a very high rate of positive responses to surgery.

It is our common experience that surgeons do not recognize pain arising from the SIJ (32). I have seen dozens of patients with easily diagnosed SIJ pain that went for years (and with multiple visits to other surgeons) without a diagnosis. Of great concern is that the frequency of lumbar fusion in this patient population is high; in our experience, most patients diagnosed with SIJ pain who underwent previous lumbar fusion derived no benefit from the fusion. Rather, they were exposed only to its risks. To improve surgical outcomes in the care of patients with chronic low back pain, the practicing surgeon must make efforts to recognize SIJ pain. Typical symptoms include inability to sit for prolonged periods, pain during driving over bumps, and pain on turning over in bed at night. Patients often present in the clinic sitting on the unaffected buttock cheek or standing. Physical examinations for SIJ pain are easily performed and shown to be highly predictive of the reference standard, intraarticular joint block (33). The publication of long-term results from a high-quality study should provide inspiration to surgeons to learn more about SIJ pain and become familiar with its diagnosis and treatment.

Acknowledgments

To Daniel Cher for his help, assistance and support.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Cite this article as: Vanaclocha-Vanaclocha V, Sáiz-Sapena N, Vanaclocha L. Sacroiliac joint pain: is the medical world aware enough of its existence? Why not considering sacroiliac joint fusion in the recalcitrant cases? *J Spine Surg* 2019;5(3):384-386. doi: 10.21037/jss.2019.06.11