

## PROFESSIONALISM & COMMENTARY

# Commentary on King W, Ahmed S, Baisden J, Patel N, MacVicar J, Kennedy DJ. Diagnosis of Posterior Sacroiliac Complex Pain: A Systematic Review with Comprehensive Analysis of the Published Data

In composing their review of posterior sacroiliac procedures, King et al. [1] responsibly complied with the requirements of the GRADE system for assessing quality of literature [2]. Doing so, however, generates what might be regarded, in some respects, as unexciting reading. King et al. [1] found the literature in general to be of moderate quality. However, the constraints of GRADE do not permit reviewers to explore other more incisive questions that are of interest to consumers, such as, do these procedures really work, and should we use them? King et al. [1] deferred these questions to a later, separate exercise that would address appropriate use criteria (AUC).

Such a deferral possibly precipitates certain misconceptions or questions. Some consumers might be forgiven for concluding that if the literature is of moderate quality, then there is moderate evidence of the effectiveness of posterior sacroiliac procedures. This not necessarily the case, for literature of moderate quality could be moderate evidence of lack of effectiveness. Other consumers might lack the patience to wait for a formal AUC exercise and would ask, why can't we conclude on the basis of the already available literature?

In both respects, the review of King et al. [1] falls short because it was a disciplined exercise complying with the precepts of GRADE. However, that does not preclude others using the literature collected and reported by King et al. [1] to offer answers to questions not answered by their review.

Embedded in the literature is inconsistency in several respects concerning diagnosis. To select patients for treatment, the various studies of posterior sacroiliac procedures used different tests and criteria, none of which has been validated. The sacral lateral branch blocks that were used in some studies [3–6] have been explicitly shown to have poor face validity [7]. Furthermore, sacral lateral branch blocks do not protect normal volunteers

from experiment sacroiliac joint pain [8], which seriously calls into question the logic, let alone propriety, of using intra-articular blocks as a diagnostic test for a treatment aimed at sacral lateral branches. Logically, sacral lateral branch blocks would be appropriate only for pain stemming from the posterior sacroiliac ligaments, which cannot be diagnosed using intra-articular blocks [8]. Moreover, and most critically, in no study were the diagnostic blocks used controlled for false-positive (placebo) responses. Such responses would reduce the success rate of subsequent treatment.

However, the literature indicates that concerns about diagnosis are irrelevant. Reading the evidence backwards, as it were, all studies report more or less the same success rate for radiofrequency neurotomy (RFN) of sacral lateral branches [3,5,6,9–15], irrespective of how the diagnosis was established: whether by single intra-articular blocks, using local anaesthetic or using steroids, or intra-articular blocks followed by lateral branch blocks.

Surely the question to arise is: how can this be? How can a treatment be successful regardless of whether valid or invalid diagnostic tests were used and when no test was controlled?

One response might be that posterior sacroiliac pain is a mysterious disorder that allows this paradox to exist and that more research is needed to work out the extent to which sacroiliac joint pain is partially mediated by sacral lateral branches. A competing resolution to this paradox is that the trick lies buried in the question. The paradox persists only if it assumed to be true that treatment was successful.

In other applications of RFN for the treatment of spinal pain, the operational criteria for successful outcome have been complete relief pain, persisting beyond 12 months and more, accompanied by restoration of activities of daily living, and having no need for other health care (for the

condition treated) [16,17]. Academically and professionally, these are laudable and impressive criteria and ones that surely would satisfy insurers and others who pay for health care.

In contrast, the criteria for success from sacral lateral branch RFN have been 50% relief of pain for only 2 months [11], 3 months [10,13,14], 4 months [12], 6 months [5,9], or 9 months [3,15], accompanied by patient "satisfaction" but with no evidence of restoration of function and no evidence about continuing use of other health care. Thus, although the review of King et al. [1] shows that the literature is of moderate quality, that literature attests to moderate outcomes, or less.

With respect to the paradox, a succinct resolution might be that diagnostic noise begets therapeutic noise. Under those circumstances, practitioners should not be surprised if insurers are not impressed either by the quality of the literature or by the quality of the outcomes achieved by posterior sacroiliac procedures. Practitioners attracted to adopting these procedures should realize that they are not the panacea for sacroiliac pain that the rhetoric sometimes associated with them might suggest.

In order to put posterior sacroiliac procedures onto the retail shelf, diagnostic noise and therapeutic noise must be eliminated. Required are

- Studies using controlled, multisite, multidepth, sacral lateral branch blocks, as the best validated diagnostic test, to establish just how prevalent is complete relief of pain and various other grades of relief. Is it common or is it a rarity? Such studies serve to establish in what proportion of patients RFN might logically be an applicable treatment.
- Studies to determine the durability of outcome, simultaneously with respect to pain, function, use of other health care, and return to work. Such studies serve to determine if the outcomes achieved actually reduce the burden of illness and are not fleeting and inconsequential for patients.

For those intent on using lesser criteria for diagnosis, or diagnostic tests other than multisite, multidepth sacral lateral branch blocks, their responsibility lies in showing that the outcomes subsequently achieved are durable and saleable both to professional peers and to those who pay.

NIKOLAI BOGDUK, MD, PhD, DSc  
*University of Newcastle, Newcastle, New South  
Wales, Australia*

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