Sacroiliac joint block

A sacroiliac (SI) joint block is a minimally invasive procedure used to diagnose and/or treat pain originating from the sacroiliac joint, which is located in the lower back where the pelvis meets the spine. Here's an overview of the procedure:

Indications

Chronic lower back pain suspected to originate from the SI joint.

Pain radiating to the buttocks, hips, or thighs.

Pain not relieved by conservative treatments (e.g., physical therapy, medications). Pain exacerbated by certain movements, such as standing, walking, or climbing stairs. Diagnostic tool to confirm SI joint as the pain source before considering more invasive treatments like radiofrequency ablation or SI joint fusion. Procedure Preparation:

The patient lies on their stomach (prone position). Local anesthetic may be applied to the skin to numb the area. Imaging Guidance:

Fluoroscopy (X-ray) or ultrasound is used to guide the needle precisely into the sacroiliac joint. Needle Insertion:

A fine needle is inserted into the SI joint under imaging guidance to ensure correct placement. Injection:

A combination of local anesthetic (e.g., lidocaine or bupivacaine) and corticosteroid (e.g., triamcinolone or dexamethasone) is injected: Local anesthetic provides immediate pain relief, confirming the SI joint as the pain source. Corticosteroid reduces inflammation for longer-term pain relief. Post-Procedure:

The patient is monitored for a short time for any immediate reactions. Pain relief is assessed over the next hours to days to evaluate the effectiveness of the block. Benefits Diagnostic: Helps identify if the SI joint is the source of the pain. Therapeutic: Reduces inflammation and provides relief from pain, potentially lasting weeks to months. Risks Bleeding. Infection. Temporary numbness or weakness. Allergic reaction to medications. Worsening of symptoms (rare). Follow-Up The patient may require additional blocks or alternative therapies, depending on the pain relief achieved. If the block confirms the SI joint as the pain source and conservative measures fail, further interventions (e.g., radiofrequency ablation or fusion surgery) may be considered.

Despite the availability of safe and effective surgical treatment for chronic sacroiliac joint pain, many clinicians find the diagnosis challenging. Misdiagnosis can lead to misdirected surgery, which has important consequences. The study aimed to determine whether a combination of clinical examination, sacroiliac joint block, and selected radiographic imaging can distinguish patients with SI joint pain from those with other causes of chronic low back pain.

Prospective diagnostic accuracy study with evaluation of 364 consecutive patients seeking advice in a neurosurgical clinic for chronic low back pain. Participating patients underwent comprehensive clinical examinations (medical history items, specific physical examination maneuvers, and selected radiographic tests) followed by SI joint block. Block was used to confirm or exclude SI joint pain. Logistic regression with LASSO (least absolute shrinkage and selection operator) penalty was used to calculate the accuracy of diagnosis when looking at (1) medical history items only, (2) medical history plus radiographic testing, and (3) medical history, radiographic testing, and physical examination testing.

Results: 150 patients had a positive response (>50% acute pain relief) to SI joint block, 214 had no response to SI joint block, and 37 had minimal (<50% improvement) pain. Diagnostic accuracy for SI joint pain was lowest with medical history only (85-86%), slightly higher when radiographic testing was added (87%), and highest when physical examination testing was included (96%).

Comprehensive clinical examination (including SI joint block where relevant and selected imaging procedures) accurately distinguishes the SI joint from non-SI joint causes of chronic low back pain.

Trial registration: https://www.clinicaltrials.gov/study/NCT04381208 [1].

This study provides valuable insights into the diagnostic approach for chronic low back pain caused by SI joint dysfunction, emphasizing the superiority of a comprehensive clinical examination. However, the limited contribution of radiographic testing, the reliance on SI joint block as a gold standard, and the lack of generalizability warrant cautious interpretation. Future research should aim to validate these findings across broader settings and refine diagnostic protocols to enhance clinical utility.

1)
Vanaclocha V, Jordá-Gómez P, Saiz-Sapena N, Vanaclocha L, Kennedy J. Diagnostic accuracy of clinical examination to distinguish sacroiliac joint pain as a cause of chronic low back pain. Br J Neurosurg. 2024 Dec 10:1-8. doi: 10.1080/02688697.2024.2433492. Epub ahead of print. PMID: 39654480.