



Intractable Abdominal Pain Management and MRI Neurography

MRI neurography (MRN) is a powerful MRI technique that delineates nerves and neural pathology. In many instances of intractable pain in many parts of the body, MRN helps identify specific nerves that may be a cause of the pain and guides interventional pain treatment.

This 24 years old man had abdominal pain on the left side for 3 weeks. He was investigated for every possible acute cause, including urinary calculus disease, bowel pathology and unusual manifestations of acute pancreatitis and appendicitis. In 3 weeks, he had two CT scans of the abdomen, 2 ultrasound exams and 1 MRI along with innumerable blood tests.

He was sent for evaluation. When we evaluated him, his pain had a specific map along the anterior abdominal wall. We then performed an MRN study.

The MRN study showed an abnormal bright ilioinguinal nerve (Figs 1, 2) and this corresponded to the patient's pain map, suggesting that inflammation of this nerve was likely the cause of pain.

To confirm this, the ilioinguinal nerve was located on a transverse CT scan (Fig. 3) and then injected under CT guidance (Fig. 4) using a combination of long-acting anesthetic and steroid. His pain score diminished from 8 to 4 by the end of the day and then to 2 after another 2 days. This pattern of inflammation is often related to posture and muscle imbalance and he was also advised regular physiotherapy to correct any pelvic or abdominal wall imbalance.

He is still pain free, after 6 weeks.



Fig 1: Coronal MRN image shows the abnormally bright left ilioinguinal nerve (arrows)

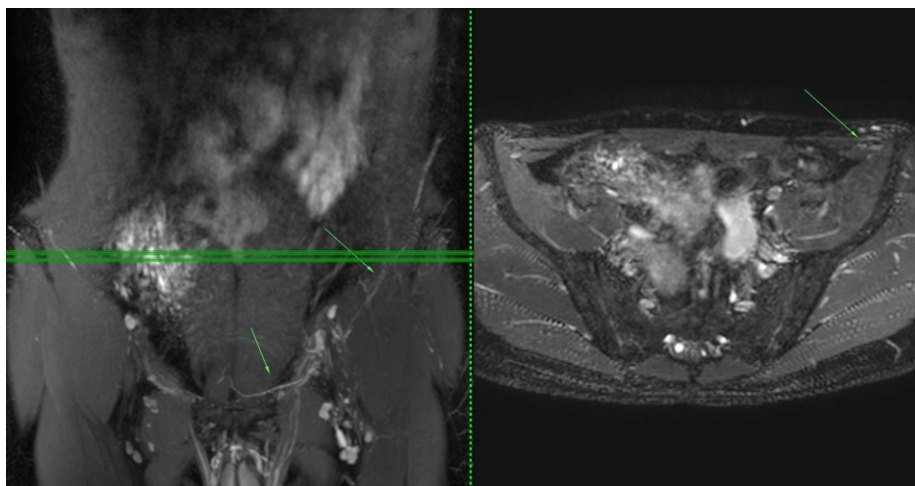


Fig 2: Axial MRN locates the abnormal nerve in the anterior abdominal wall (arrow)



At a glance

- MRN is a powerful tool in patients with intractable pain in different parts of the body
- MRN picks up abnormally thickened or bright nerves
- If the pain reduces after injection of these nerves, then it proves that these were responsible for the pain and further management targeted to these nerves can be instituted.

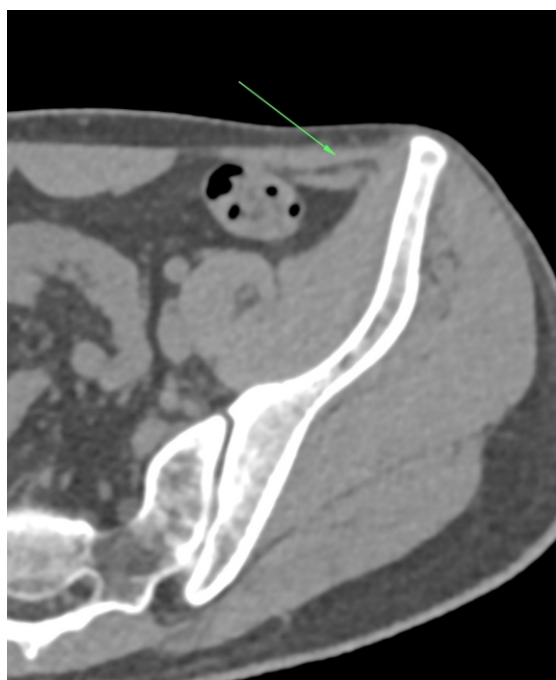


Fig 3: Corresponding axial CT scan matched with the axial MRI to locate the abnormal nerve on CT.

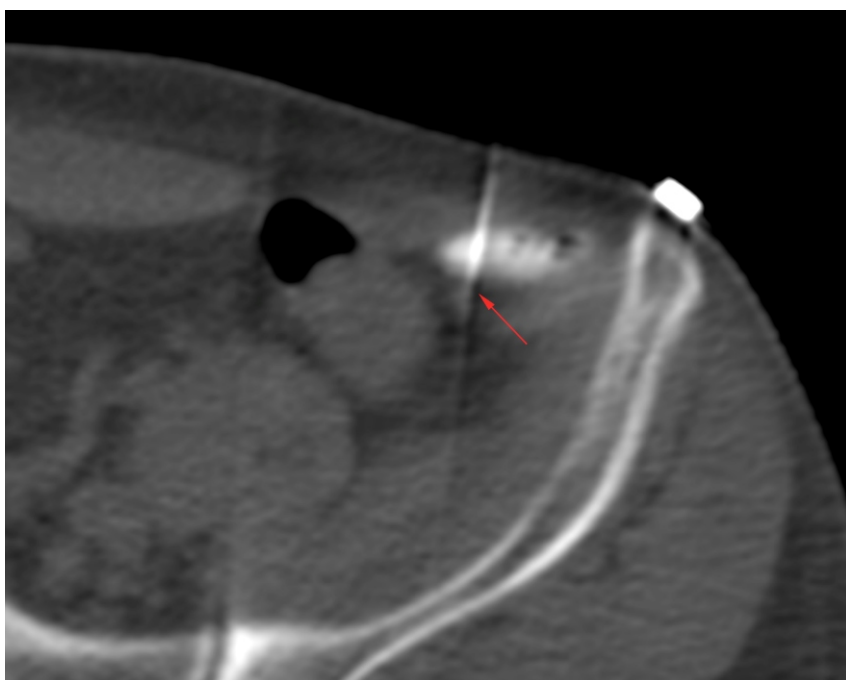


Fig 4: Nerve injection. CT guided injection of the nerve using a combination of long acting steroids and anesthetic.

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Owner, Printer & Publisher: Dr. Bhavin Jankharia

Published at: Dr. Jankharia's Imaging Centre

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