

## **Diagnostic conscious pain mapping using laparoscopy under local anaesthetic and sedation in general surgical patients**

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This is an interesting paper from Wexham Park Hospital in Slough, outlining initial experience in the use of laparoscopy under local anaesthetic and sedation in the diagnosis of chronic abdominal pain.

The authors have selected nine patients with chronic abdominal pain who had previously been through various and multiple investigations all of which were normal who then underwent laparoscopy under local anaesthetic and sedation. By touching and grasping intra-abdominal viscera and peritoneum an attempt was made to reproduce the patient's pain.

In the operating theatre the patient was sedated with Midazolam (2mg boluses to keep the patient relaxed but able to answer questions) and full non-invasive monitoring was instituted in the presence of an Anaesthetist. Intravenous opiates were also given for pain induced by the procedure if necessary. Oxygen was delivered by mask. The skin and rectus sheath at the site of the first cannula typically just below the umbilicus, were infiltrated with a mixture of 10 ml 1% Lignocaine and 10 ml 0.5% Bupivacaine. The linea alba was exposed and the Verres needle was inserted into the peritoneum (semi-open technique). Nitrous oxide was insufflated to a maximum pressure of 8 mmHg and laparoscopy was performed in the head down position using a 5 mm laparoscope. Additional 2 mm or 5 mm ports for instrumentation were appropriately sited under direct vision after infiltration of more local anaesthetic mixture. By touching and grasping intra-abdominal organs and peritoneum, an attempt was made to evoke the patient's pain. The patients were asked whether the induced pain was similar in nature and site to the presenting complaint.

Depending on the results and after subsequent discussion in clinic, most patients went on to undergo a successful therapeutic procedure.

Gallbladder pathology was found in three of the nine patients and in all three cholecystectomy cured the pain. Adhesions were diagnosed in three patients. One had the adhesions divided at laparoscopy and is now pain free. The other two patients having seen the adhesions and having had an explanation declined further surgery. Their chronic pain has also resolved. A further patient had adhesions secondary to an appendicectomy but they did not mimic the chronic pain at the time of laparoscopy. At follow up 18 months later her pain had resolved spontaneously. One patient had chronic right iliac fossa pain. The appendix was found to be the cause of this pain at laparoscopy and subsequent appendicectomy resulted in cure.

In one patient with negative findings the patient was referred to a Gastroenterologist and a diagnosis of atypical irritable bowel syndrome was made. Treatment was successful.

This is not a new technique. Zupi et al performed this technique on 20 patients in 1999 investigating infertility to map out pelvic pain and to quantify the level of provoked pain in patients who were pain free. They were able to show that the highest level of pain was recorded when the fallopian tube was distended but no pain was elicited when the ovary, omentum and bowel was touched or grasped.

The authors point out that although they were able to perform this procedure in nine patients the use of Nitrous Oxide which may act both as an analgesic and an insufflator, precluded the use of diathermy and hence any therapeutic procedures. The insufflation of carbon dioxide causes pain and therefore could not be used under local anaesthesia.

Conscious pain mapping using this technique is relatively new. The authors recognise that this may be of benefit in patients with chronic abdominal pain who have had multiple investigations without a diagnosis being established. The procedure seems to be well tolerated by patients and this is certainly a procedure which could be considered by many laparoscopic surgeons.

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