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Editorial comment

Inguinal hernia surgery—A minor surgery that can cause major pain

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Persistent postsurgical pain is pain lasting for more than 3–6 months after surgery. Such pain may be a major consequence even after minor and routine surgery [1].

Many surgical procedures are associated with lesions of nerve fibers and may therefore cause chronic neuropathic pain. While not all nerve lesions are associated with neuropathic pain, factors that need to be fulfilled for the diagnosis of neuropathic pain include pain in the innervation territory of a peripheral nerve that may have been damaged by the surgery and sensory abnormality in all or part of the painful area [1,2]. In addition to sensory loss in the damaged nerve territory, sensory hypersensitivity and pain upon light touch or cold (dynamic mechanical or cold allodynia) are characteristics of neuropathic pain [1]. Often, a clinical and neurological examination is necessary to separate neuropathic pain from persistent nociceptive pain, including pain due to inflammation. Other possible risk factors for chronic postoperative pain include type of surgery, genetic susceptibility, preceding pain, anxiety, age, and sex [1].

In this issue of the Scandinavian Journal of Pain, Niklas Magnusson and colleagues studied the correlation of nerve handling during inguinal hernia surgery and sensory disturbances one year postoperatively [3]. A large group of patients (116) were included and answered a pain questionnaire, and 92 patients underwent a bedside sensory examination of light touch, pinprick, and cold and warm sensation. Thirty-one patients (26%) reported pain in the last week and in 11 patients (9.2%), the pain could not easily be ignored. This is consistent with previous studies which suggest that the incidence of chronic postoperative pain affecting everyday activities following inguinal hernia repair is about 10% with 2–4% reporting severe disabling pain [1,4].

Sensory abnormalities were found in about one-third, and in 21% the area of sensory abnormality extended more than 2 cm from the scar. There was no correlation between pain and sensory abnormalities extending more than 2 cm from the scar. This is in contrast to other studies that have found an association between the degree and location of sensory disturbance and the occurrence of pain [4]. Possible reasons for these discrepancies are the rather crude measures of sensory abnormalities used, and the fact that only sensory disturbances extending 2 cm from the scar were correlated to the presence of pain in the current paper.

Sensory abnormalities were only seen following open hernia repair and not in the group that had laparoscopic extraperitoneal hernia repairs. This is consistent with a Cochrane meta-analysis that suggests less persistent pain and numbness following laparoscopic repair versus open techniques [5]. However, within the open hernia surgeries, Magnusson et al. only found a tendency towards a higher prevalence of sensory abnormalities if the ilioinguinal nerve was transected. In the present study, the relation between intraoperative handling of nerves and the presence of pain was not tested. Other studies have suggested that identification and preservation of nerves during open inguinal hernia repair reduce chronic incapacitating groin pain [6], and it is recommended that all three inguinal nerves should be identified during open inguinal hernia repair.

Surprisingly, local infiltration of an anesthetic agent or blockade of the ilioinguinal nerve was associated with more sensory abnormalities, but the relation to pain was not tested. This finding may partly be explained by the fact that the decision to give local anesthetics was not randomized. Pre-emptive treatment is suspected to prevent some of the neuroplastic changes (including peripheral and central sensitization) that may take place following a surgical procedure. It is acknowledged, however, that it is still uncertain whether neural blockade and other pre-emptive treatments may prevent or reduce chronic postoperative pain [1].

Despite some limitations of the present study, Magnusson et al. have confirmed that a relatively minor operation like hernia repair is associated with persistent sensory abnormalities and pain in a significant proportion of patients. While there are many causes of chronic postoperative pain, neuropathic pain is a common type of chronic postoperative pain. Since neuropathic pain is often persistent and resistant to treatment, it is important to recognize this type of pain, and surgical techniques that avoid or minimize nerve damage should always be considered. Studies that aim to identify risk factors and improve the treatment and prevention of persistent postoperative pain are highly needed.

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