Less Pain 1 Year After Total Extra-peritoneal Repair Compared With Lichtenstein Using Local Anesthesia

Data From a Randomized Controlled Clinical Trial

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Objective: The aim was to compare long-term postoperative pain after inguinal hernia surgery using 2 techniques that have shown favorable long-term outcome in previous randomized studies: Lichtenstein using local anesthesia (LLA) and endoscopic total extra-peritoneal repair (TEP) under general anesthesia.

Background: Patients often experience pain after inguinal hernia surgery. The 2 methods in their optimal state have not yet been sufficiently compared.

Methods: A randomized controlled trial was conducted to detect any difference in long-term postoperative inguinal pain. Altogether 384 patients were randomized and operated using either TEP under general anesthesia (n = 193) or LLA (n = 191). One year postoperatively, patients were examined by an independent surgeon and requested to complete the Inguinal Pain Questionnaire (IPQ), a validated questionnaire for the assessment of postoperative inguinal pain.

Results: Three hundred seventy-five (97.7%) patients completed follow-up at 1 year. In the TEP group, 39 (20.7%) patients experienced pain, compared with 62 (33.2%) patients in the LLA group (P = 0.007). Severe pain was reported by 4 patients in the TEP group and 6 patients in the LLA group (2.1% and 3.2%, respectively, P = 0.543). Pain in the operated groin limited the ability to exercise for 5 TEP patients and 14 LLA patients (2.7% and 7.5%, respectively, P = 0.034).

Conclusions: Patients operated with TEP experienced less long-term postoperative pain and less limitation in their ability to exercise than those operated with LLA. The present data justify recommending TEP as the procedure of choice in the surgical treatment of primary inguinal hernia.

Keywords: inguinal hernia, Lichtenstein, local anesthesia, postoperative pain, TEP

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Randomization and Masking

Randomization was carried out on a 1:1 ratio between LLA and TEP. The participating hospitals received separate blocks of consecutively numbered sealed envelopes for the randomization procedure. Each block contained 20 envelopes.

Patients were randomized to either LLA or TEP in general anesthesia on the day of surgery by the operating surgeon. Group allocation was not masked.

Study Design and Participants

Inclusion was conducted between April 10, 2006, and January 5, 2011. Men ages 20–80 years with a primary unilateral hernia were eligible for inclusion. Exclusion criteria were: female; age younger than 20 years or older than 80 years; American Society of Anaesthesiology (ASA) physical status score above 3; bilateral hernias; scrotal hernia; recurrent hernia; and previous surgery in the lower abdomen (except appendectomy). Figure 1 shows the enrollment of patients in the study. All patients were recruited and treated at either of 2 hospitals located in 1 Swedish county. The study was approved by the Regional Ethics Committee in Uppsala, Sweden, before the first enrollment, and is registered with ClinicalTrials.gov, number NCT01020058.