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Reoperation for groin pain after inguinal herniorrhaphy: does it really work?

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Abstract

BACKGROUND: Chronic groin pain after inguinal hernia repair (IHR) is a vexing problem. Reoperation for groin pain (R4GP) has varied outcomes.

METHODS: A retrospective review and telephone survey of adults who presented with groin pain after IHR from 1995 to 2014.

RESULTS: Forty-four patients underwent R4GP; 23% had greater than 1 R4GP. Twenty-three (52%) had hernia recurrence at the time of R4GP. Twenty (45%) underwent nerve resection, and 13 (30%) had mesh removed. Twenty-eight patients completed a telephone survey. Of these, 26 (93%) respondents indicated they experienced pain after their last R4GP for a median duration of 12.5 months. At study completion, 5 patients continued to have debilitating chronic groin pain, 5 had moderate pain, 6 had minimal discomfort, and 12 were pain-free. Twenty-four respondents (86%) would proceed with reoperation(s) again if they could go back in time.

CONCLUSIONS: Although most patients do not experience immediate relief with R4GP, the majority receive some benefit in long-term follow-up.

Chronic groin pain (CGP) after inguinal hernia repair (IHR) can be a debilitating problem that may drastically affect quality of life. Published literature suggests rates of groin pain after IHR range from .9% to 30%.[1–3] Some data suggest that laparoscopic totally extraperitoneal or transabdominal preperitoneal (TAPP) repair of inguinal hernias result in a higher rate of CGP than open repair.[1,3] Others have found open repair to be associated with an increased risk for postoperative pain and functional impairment.[2] Such variability may be attributable to differing patient demographics, varied methods of screening for pain, and length of follow-up.

Similarly, conflicting data exist on the success of reoperations for postherniorrhaphy CGP (reoperation for groin pain [R4GP]) and the optimal timing for such an intervention. A prospective study of 12 patients with chronic neuralgia after a prior open IHR showed that a reoperation consisting of combined laparoscopic and open procedures (standard 3-trocar TAPP, groin exploration, mesh removal, and nerve transection) resulted in at least partial relief of groin pain in all patients without perioperative complications.[4] Two case series have reported

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moderate to complete pain reduction in 76% of patients after reoperation with selective neurectomy[5] and in 88% of patients treated with triple neurectomy.[6] In a study with longer follow-up, although two-thirds of patients showed complete or partial relief of groin pain after ilioinguinal neurectomy, 72% of patients had return of the original pain, on average, within 35 months (range 3 to 108 months) from surgery.[7]

Because of this conflicting outcome data, we aimed to characterize our experience with patients undergoing reoperation for CGP. Specifically, we assessed patient and operative characteristics, as well as the long-term postoperative outcome in these individuals.

Methods

With institutional review board approval, we retrospectively identified adults (age $\geq$18 years) evaluated at our institution (1995 to 2014) who experienced inguinal and/or groin pain after IHR and subsequently underwent R4GP. We initially searched for all adults with documented inguinal and/or groin pain, by querying our electronic medical record (EMR) for the terms "groin pain" and "inguinal pain" in clinical and operative notes during the 20-year study period. The search was conducted by using an electronic search program (data discovery and query builder). Within this cohort, we excluded all patients who had no history of IHR. Of the remaining patients, we identified those who suffered from CGP, which for the purpose of this study, was defined as pain persisting 1 month or longer. Of these patients, those who underwent reoperation with the indication of groin and/or inguinal pain were included. A chart review was performed to extract patient demographics (ie, age, sex, race, and comorbidities), operative characteristics (laterality, hernia type, surgery type, operative time, anesthesia type, resected nerves, etc), postoperative complications, and pain outcome. In addition, a telephone survey was conducted to supplement information on the postoperative outcome of R4GP. During this survey, patients were asked regarding perception of pain intensity before and after reoperation, improvement in their pain while performing various activities (lying and/or bending down, getting out of bed etc), pain intensity at the time of survey, and willingness to have the reoperation again if he and/or she had a choice. Descriptive statistical analysis was performed using JMP version 10.0.0 (SAS Institute Inc., 2012, Cary, NC).

Results

Overall results

Over a 20-year period (1995 to 2014), a total of 1,331 adults with groin pain were identified. From this group, 550 patients had documented CGP after IHR; we reoperated on 44 such patients (8%) in attempts to alleviate CGP.

Of the remaining 506 patients, 35.5% were observed without any medication, 40.5% received nonsteroidal anti-inflammatory drugs (NSAIDs), 2% narcotic pain medication, 4.2% trigger point injection, 1% gabapentin, .2% tricyclic antidepressants such as amitriptyline, 8.5% any combination of the aforementioned treatments, and 8.1% had unclear or undocumented treatments. Patients with low or minimal levels of pain were typically observed with or without NSAIDs. Fifty-three (10.5%) patients in this nonoperative group who visited a pain clinic were refractory to NSAID or other medications, and the majority (85%, 45 of 53) of these were noted to undergo trigger point injection in our EMR.

Initial hernia operation

Of the 44 patients who underwent reoperation, 36 were men and 8 women. Median age was 48 years (range, 18 to 80) at the time of their initial hernia operation (see Table 1 for patient characteristics). Twenty-three (52%) had their IHR performed at Mayo Clinic. Information on the first operation (open mesh = 19, laparoscopic = 8, and open tissue = 8) was incomplete in 9 patients. Overall for this first operation, we noted 1 patient undergoing open mesh repair (of 19) had ilioinguinal neurectomy. A total of 8 complications were identified in the study group: 4 wound infections, 1 hematoma, 1 seroma, 1 case of urinary retention, and 1 patient with fat necrosis near the incision.

Reoperation(s) for groin pain

The median age at the time of the first reoperation for pain was 49 years (range 23 to 82). In total, 57 reoperations were performed in the 44 patients. Ten (23%) underwent more than one R4GP. Seventeen of 42 (40%) patients (2 patients with unknown date of initial IHR) had their first reoperation performed within 1 year of the most recent IHR. Although not explicitly stated for every patient, common indications for operation before 1 year found in the medical record were pain of moderate to high intensity refractory to conservative treatment and pain significantly affecting quality of life. General anesthesia was administered in 49 of 54 (88%) reoperations (3 unknown). Fifty-two of 53 (98%) cases were performed in an elective manner (4 unknown). The operative time was available in 56 of 57 cases; the mean duration was 105 $\pm$ 48 minutes. Nerve resection was performed in 20 (45%) of the 44 patients. Among the 57 total reoperations in these 20 patients, neurectomy (n = 22, 39%) of the ilioinguinal nerve (n = 19), genitofemoral nerve (n = 6), iliohypogastric nerve (n = 11), and lateral cutaneous nerve of the thigh (n = 1), was carried out. Minor complications included 1 wound infection, 1 hematoma, 1 seroma, and 2 cases of urinary retention.