



II Congreso

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INGUINODINIA ¿Cómo PREVENIRLA?

- **DR. JAIME RAPPOPORT**
- **HOSPITAL CLINICO UNIVERSIDAD DE CHILE**
 - **SANTIAGO, CHILE**



CONFLICTOS DE INTERES

NINGUNO



COSTO BIOLOGICO DE LA CIRUGIA

- **DOLOR POSTOPERATORIO INHERENTE A LA CIRUGIA**
- **EXPECTATIVAS CIRUJANO**
- **EXPECTATIVAS PACIENTE**



¿QUE ES EL DOLOR?

- ES UNA SENSACION
- RESPUESTA A UN ESTIMULO
- VARIABILIDAD DE UMBRAL
- VARIABILIDAD DE RESPUESTA





INGUINODINIA

DEFINICION

- **DOLOR INGUINAL CRONICO (MAS DE 3 MESES) QUE APARECE DESPUES DE UNA HERNIORRAFIA INGUINAL,**
 - **O DOLOR DE CARACTERISTICAS DIFERENTES AL PREOPERATORIO**
 - **COMO CONSECUENCIA DE LESION DE NERVIO**
 - **O LESION SISTEMA SOMATOSENSORIAL**
-
- Aasvang E, Kehlet H. Chronic postoperative pain: the case of inguinal herniorrhaphy.
 - Br J Anaesth 2005;95:69–76.



INGUINODINIA

QUE SABEMOS



Advances in Surgery 50 (2016) 203–230

ADVANCES IN SURGERY

Groin Pain After Inguinal Hernia Repair

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Keywords

- Chronic pain • Inguinal hernia • Lichtenstein • Neurectomy • CPIP
- Chronic postoperative inguinal pain • Inguinodynia

Key points

- Quality of life and avoidance of chronic postoperative inguinal pain (CPIP) are now primary outcomes of elective inguinal herniorrhaphy because of the success of tension-free mesh-based repairs.
- Multidisciplinary approach with a pain management team is indicated if several months of expectant management of CPIP do not result in amelioration of symptoms.
- Conservative treatment with topical, pharmacologic, behavioral, and expectant measures is advocated in all patients.
- Triple neurectomy is the recommended surgical treatment of neuropathic inguinal pain refractory to conservative measures.
- Reoperation for CPIP is best performed by experienced herniologists; less experienced clinicians should refer patients with CPIP who fail conservative management to a multidisciplinary team.



Bjurstrom MF, Nicol AL, Amid PK, et al. Pain control following inguinal herniorrhaphy: current perspectives
Journal of Pain Research 2014: Table 1 Risk factors for chronic postherniorrhaphy inguinal pain

- **Preoperative factors**

- Young age3,9,24,35,36,43 Female sex3,9,24,35,36,43
- **High pain intensity level (inguinal/elsewhere)3,9,24,35,36,45** Lower preoperative optimism49
- impairment of everyday activities42 Operation for a recurrent hernia2,9
- Genetic predisposition (DQB1*03:02 HLA haplotype)59 Experimentally induced pain High pain intensity 42

- **Perioperative factors**

- Less experienced surgeon9 Open repair technique9,11,35,36,42,50
- **Mesh type: heavyweight (open,37 laparoscopic38)** Mesh fixation: suture 40,41, staple 39
- iiN neurolysis in Lichtenstein repair45
-

- **Postoperative factors**

- Postoperative complications (hematoma, infection)35,36 High early postoperative pain intensity9,42
- Lower perceived control over pain49 Sensory dysfunction in the groin24,42,45

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Effects of Prophylactic Ilioinguinal Nerve Excision in Mesh Groin Hernia Repair: Short- and Long-Term Follow-Up of a Randomized Clinical Trial

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We conducted a randomized clinical trial on the impact of prophylactic ilioinguinal nerve excision (INE) on neuralgia, hypoesthesia, and analgesia requirement after open herniorrhaphy as well as on sustainability of a selective approach. Ninety-seven consecutive patients undergoing a Lichtenstein procedure were treated with INE ($n = 45$) or preservation (NP) ($n = 52$). Impact of patients' age, gender, type of anesthesia, and hernia on outcomes was also evaluated by logistic regression analysis (LRA). Patients receiving INE reported less pain on postoperative days (POD) 1 and 7 and at 1 month and required less analgesia on POD 1. Overall younger patients (40 years old or younger) had more postoperative discomfort at LRA. Pain intensity was similar at 6 and 12 months after INE or NP: moderate to severe pain in 4.4 *versus* 11.5 per cent ($P = 0.279$) and 4.4 *versus* 9.6 per cent ($P = 0.445$), respectively. Hypoesthesia was more frequent after INE on POD 1 and 7: 68.9 and 53.3 per cent *versus* 13.5 and 9.6 per cent, respectively ($P < 0.0001$), but no longer at 1 month: 11.1 *versus* 3.8 per cent ($P = 0.244$) as well as at 6 and 12 months (0% in both study groups). No further correlation was found by LRA. INE prevents inguinodynia up to 1 month follow-up regardless of patient variables. Moreover, the increase of hypoesthesia proved to be a short-term complication.

Editorial Opinion

Hernia repair: why do we continue to perform mesh repair in the face of the human toll of inguinodynia?

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KEYWORDS:

Hernia;
Mesh;
Inguinodynia;
Nerve entrapment;
Hernia repair

Abstract

Fifteen to 20 years ago, transversalis and Shouldice Hospital repairs were standard, with a 4% to 6% rate of recurrence. With a focus on recurrence, various mesh repairs were proposed to reduce the incidence of recurrence. With these repairs, an increased incidence of inguinodynia due to the entrapment of the nerves proximate (adjacent) to the mesh has been observed. Many surgeons doubted its existence; however, there is sufficient evidence that with mesh repair in which the affected nerves are resected, the incidence of severe pain is lessened considerably. Triple neurectomy has been proposed as a therapy, but only 80% of patients are relieved of pain. Recurrence is insufficient to make patients' lives miserable, with mesh repair reporting up to a 21% incidence of inguinodynia. Although few surgeons today perform this procedure and most residents have never seen it, the author proposes that mesh repairs be abandoned and the transversalis or Shouldice Hospital repair be adopted.

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Preventing Inguinodynia After Hernia Surgery: Does the Type of Mesh Matter?

Gianluca Pellino · Francesco Selvaggi

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Dear Editor,

We are greatly interested in the recently published article by Shah et al. [1] and the invited Commentary by Chen and Asadi [2] comparing fibrin glue with tack mesh fixation during hernia repair. We applaud the meta-analysis [1] involving over 1,500 patients that suggests the potential of glue fixation in reducing early postoperative pain. We totally agree with the authors of the invited Commentary [2] that many factors affect postoperative pain, irrespective of the operative approach (open vs. laparoscopic) or whether or not a mesh is placed.

A thorough understanding of the neuroanatomy is pivotal to avoiding damage to the nervous structures that can lead to neuralgia and other nuisances. However, another facet should be taken into account in addition to avoiding direct lesioning of the nerves [2]—the composition of the mesh. We recently reported our experiences when using two types of mesh to repair groin hernias. Patients were randomized to treatment with either a heavyweight small-pore mesh or a lightweight large-pore mesh, both fixed using human fibrin glue [3]. The latter achieved significantly better results in terms of early (within 1 week) postoperative pain as graded on a 10-cm visual analogue scale [VAS: 4.9 ± 1.1 vs. 2.8 ± 1.1 (mean $\pm$ SD), heavyweight vs. lightweight, $p = 0.0003$]. Interestingly,

this observation was confirmed at a 1-month follow-up (VAS: 3.1 ± 1.0 vs. 1.7 ± 1.0 ; $p = 0.003$).

Studies of the long-term effects of hernia repair on pain are scarce in the literature [1], but such information is crucial when considering the potential impact of the type of mesh used. The type of mesh has little effect on acute postoperative pain, as this is usually due to intraoperative nerve damage. Chronic pain, with a quoted risk of over 50 % [4], is mainly due to a foreign-body reaction (FBR), and shows a delayed onset. Biologic mesh is supposed to reduce FBR [4], but such mesh is very expensive. Heavyweight small-pore mesh induces a greater FBR, so it follows that it will be associated with higher rates of chronic pain [5]. The use of lightweight large-pore meshes is therefore desirable, especially in minimally invasive surgery that focuses on reducing sequelae, such as neuralgia, due to their detrimental effect on quality of life [3, 5].

In conclusion, in addition to adequate surgical knowledge and skills and the type of mesh fixation, the mesh characteristics are likely to significantly influence the pain outcome after hernia repair; however, long-term follow-up is required to draw definitive conclusions.

References

Perineural bupivacaine injection reduces inguinodynia after inguinal hernia repair



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Background. Inguinodynia, defined as pain lasting > 3 months after inguinal hernia repair, remains the major complication of hernia operation. We sought to determine the effect of direct perineural infiltration on acute pain and inguinodynia after open inguinal hernia repair.

Methods. Patients who presented with an inguinal hernia at a university teaching hospital were evaluated prospectively and randomized to either (1) percutaneous ilioinguinal nerve block or (2) percutaneous ilioinguinal nerve block with additional perineural infiltration of the ilioinguinal, iliohypogastric, genitofemoral nerves. All patients in each group received a total of 12 mL of 0.5% bupivacaine. Self-reported faces of pain level (1–10), minutes to discharge from the recovery room, narcotic quantity consumed (oxycodone 5 mg/paracetamol 325 mg), days on narcotics, and incidence of inguinodynia at 3 months were all recorded.

Results. Ninety-two patients were randomized in the study. Patients who received perineural bupivacaine infiltration of nerves had less recovery room pain (1.3 vs 3.9, $P < .001$) and shorter recovery discharge times (89 vs 105 min, $P = .047$) and consumed fewer narcotics (9.7 vs 15.1 doses, $P = .010$). The incidence of inguinodynia at 3 months was less in the treatment group (8.2% vs 27.9%, $P = .013$).

Conclusion. We have implemented a novel and inexpensive method of local nerve blockade that decreases pain immediately after operation and at 3 months postoperatively. Furthermore, our method leads to shorter recovery room stay and fewer narcotics after operation. (Surgery 2016;160:1528–32.)

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Inguinodynia After Two Inguinal Herniorrhaphy Methods

Jose Bueno, MD, Alfonso Serralta, MD, PhD, Manuel Planells, MD, PhD, and David Roderó, MD

Abstract: The aim of this study was to compare the rate and characteristics of postoperative neuralgia after 2 methods of inguinal hernia repairs. Between July 1997 and December 2000, 400 inguinal hernia repairs were performed and followed up in a prospective trial about postoperative nerve irritations: 200 patients with laparoscopic transabdominal hernioplasty (TAPP group), and 200 patients with tension-free hernia repair using Lichtenstein's technique (LICH group). We applied a clinic protocol of data about pain location, neuralgia characteristics, and period of time until the patient was completely pain free. The global rate of nerve irritation in the study was 7.6% (30 cases); in the TAPP group, it was 5.5% ($n = 11$) and in the LICH group, it was 9.5% ($n = 19$) ($P = .03$). The genitofemoral nerve was affected with particularly high frequency (4.3% in the global series); although in laparoscopic repair, the lateral cutaneous nerve of the thigh (LFC) was most damaged (3.3% in TAPP group). We observed more persistent symptoms in LICH group, while in TAPP group the most of cases was transitory ($P = .08$). There were no significant differences in pain characteristics according to clinical type of hernia. The TAPP method causes less rate of postoperative inguinal neuralgia than Lichtenstein repair, emphasizing more persistent discomfort in anterior approach than laparoscopic repair.

Key Words: laparoscopic herniorrhaphy, Lichtenstein repair, inguinal neuralgia, inguinodynia

(*Surg Laparosc Endosc Percutan Tech* 2004;14:210–214)

tremely uncomfortable for the patient. The clinical spectrum of inguinodynia (paroxystic and painful sensation in inguinal area nerves) affects daily activity of patients.

Few publications have focused on the incidence of postoperative inguinal neuralgia according to two methods of herniorrhaphy. The aim of this study was to compare the rate and characteristics of nerve irritations after laparoscopic TAPP approach and Lichtenstein repair.

MATERIALS AND METHODS

We analyzed 400 inguinal hernia repairs prospectively in male adults performed between October 1997 and December 2000. Patients were assigned to 1 of the following 2 groups: laparoscopic TAPP procedure (TAPP group) or Lichtenstein hernioplasty (LICH group). Assignment was aleatory, according to arrival of surgical proposal, without a specific method of randomization. Female patients, bilateral or femoral hernia, and conversion to open surgery cases were excluded from our study.

Procedures

TAPP Group

After general anesthesia, the patient was placed in the supine position. A 10-mm umbilical incision was made, and a 10-mm trocar was inserted. A second 10-mm trocar was inserted in the right lower quadrant, and a third 10-mm trocar was inserted in the left lower quadrant. The peritoneum was opened, and the hernia was reduced. The mesh was placed, and the peritoneum was closed. The incisions were closed.

Treatment of Inguinodynia After Laparoscopic Herniorrhaphy

A Combined Laparoscopic and Fluoroscopic Approach to the Removal of Helical Tackers

Jason Wong, MD, and Mehran Anvari, MBBS, PhD

Summary: Laparoscopic inguinal herniorrhaphy has become a popular operation for the treatment of inguinal hernia. However, injury and entrapment of the cutaneous nerves of the lumbar plexus by the staples or tackers used for mesh fixation have been described. Laparoscopic removal of the staples or tackers in the inguinal region has been attempted with variable success. The success of the laparoscopic approach for removal of helical tackers in particular is sometimes limited by the fact that the offending tackers are deeply embedded in the preperitoneal tissues and not readily located with a simple laparoscopic view. The authors report a case in which fluoroscopy was used to help identify tackers that could not be visualized laparoscopically. The neuralgia disappeared after successful removal of the offending tackers with no neurologic deficit. Liberal use of fluoroscopic guidance in the laparoscopic removal of helical tackers in similar cases is recommended. **Key Words:** Helical tack—Laparoscopic hernia repair—Nerve entrapment.



PREVENCION

- PREOPERATORIO
 - INTRAOPERATORIO
 - POSTOPERATORIO
-



PREOPERATORIO

- MINUCIOSA EVALUACION DEL PACIENTE
- CUIDADO CON PACIENTE QUE LLEGA CON UNA ECOTOMOGRAFIA, DOLOR Y QUIERE OPERARSE
- MANEJO DEL DOLOR PREOPERATORIO



INTRAOPERATORIO

- CUIDADOSA IDENTIFICACION NERVIOS
- PRESERVARLOS CON UNA TECNICA DEPURADA
- EN CASO DE SECCION, LIGADURA MATERIAL SUTURA ABSORBIBLE E INTRODUCIR LOS CABOS EN TEJIDO MUSCULAR
- ¿ SECCION PROFILACTICA TRES NERVIOS ?
 - Advances in Surgery 50 (2016) 203–220 Groin Pain After Inguinal Hernia Repair
 - David K. Nguyen, MDa, Parviz K. Amid, MDa,b, David C. Chen, MDa,
 - Advances in Surgery 50 (2016) 203–220



POST-OPERATORIO

- **INFLUENCIA DE LA MALLA**
 - **BAJA DENSIDAD VS MALLA PESADA**
- **MESHOMA**
 - **REACCION ANOMALA TISULAR**
- **MANEJO ADECUADO DEL DOLOR**
 - **ANALGESIA OPORTUNA**
- **DECIDIR REOPERACION PRECOZ**
 - **CASOS EXCEPCIONALES**
 - **MERALGIA PARESTESICA POSTOP INMEDIATO**
 - **OTRO DOLOR NEURITICO POSTOP INMEDIATO**



GRACIAS



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