

## The Effect of Ilioinguinal Neurectomy in Elective Inguinal Hernia Repair on Chronic Postoperative Pain

Mamdouh Al-Mezaien<sup>(1)</sup>, Taha Maati<sup>(1)</sup>, Emad Hokkam<sup>(1)</sup> and Mohamed El-Keekey<sup>(2)</sup>

Department of General Surgery, Faculty of Medicine, Suez Canal University<sup>(1)</sup> and Port-Foad General Hospital, Port-Said<sup>(2)</sup>, Egypt

### Abstract

**Objective:** This study was designed to evaluate the value of ilioinguinal neurectomy in controlling pain after elective inguinal hernia repair.

**Methods:** Fifty two male patients with unilateral primary inguinal hernia were enrolled in this comparative cross sectional study. They were randomly allocated to one of two groups (study and control). All patients in both groups were subjected to Lichtenstein hernia repair. Patients in the study group were assigned for intension ilioinguinal neurectomy while patients in the control group were assigned for ilioinguinal nerve preservation. All patients were assessed for chronic post operative pain and hypothesia. Severity pain scores were assessed using the visual analogue scale (VAS).

**Results:** The incidence of chronic pain was found to be significantly less with the study group (7.7% versus 26.9%; p-value < 0.05) at 6 months postoperatively. When comparing postoperative severity pain scores in both groups in each time point, we found that the study group showed significantly lower pain scores than the control group starting from the 2nd week postoperatively. Hypothesia was significantly more incident among the study group when assessed the two days and two weeks postoperatively.

**Conclusion:** Ilioinguinal neurectomy can result in a significant decrease in chronic postoperative pain, however, postoperative temporary hypothesia is more likely to occur with this procedure.

**Keywords:** Inguinodynia, Nerve Entrapment, Neuralgia.

### Introduction

Repair of inguinal hernias is one of the most commonly performed surgical procedures in the world. It is generally advisable to repair hernias quickly in order to prevent complications such as organ dysfunction, gangrene, inflammation, obstruction and strangulation. Surgical repair is usually done through using prosthetic material as polypropylene mesh for strengthening the posterior wall of the inguinal canal<sup>(1-4)</sup>.

There are many complications of surgery such as infection, recurrence and chronic post operative pain. The most presenting complication is chronic post operative pain which may be caused by a missed hernia, post operative neuroma formation, nerve entrapment in scar tissue, intra-operative nerve injury, an ongoing inflammation over the mesh, misplaced mesh, contracted mesh and wound infection<sup>(5-8)</sup>.

Chronic postoperative pain has been quoted in 0.7-36.7% cases of inguinal hernia repair<sup>(5)</sup>. Severe

chronic pain has been reported in 3% of cases<sup>(9)</sup>. Defining the point at which pain becomes chronic is always difficult. It has been suggested that chronic pain is pain that is unlikely to resolve or that lasts longer than the usual healing time; various time scales have been suggested, usually 3 or 6 months<sup>(10)</sup>.

Nerve entrapment is one of the most common causes of chronic pain after inguinal hernia repair. The ilioinguinal nerve is the most frequently entrapped nerve because it lies immediately beneath the divided external oblique fascia, and the mechanism seems to be injury by suture, adherence to overlying implanted mesh, or involvement in scar tissue<sup>(11)</sup>.

The ilioinguinal nerve is a sensory nerve that innervates the skin over the groin region, the medial aspect of the thigh, the upper part of the scrotum and the penile root. It is normally encountered during open repair of inguinal hernia. Traditional surgical teaching dictates that the nerve should be preserved

at all times during repair because of the supposed morbidity associated with cutaneous sensory loss and chronic groin pain following nerve injury<sup>(12,13)</sup>.

Several studies<sup>(14,15)</sup> detail methods for prevention of nerve injury and stress the need for understanding inguinal anatomy and preservation of the nerve during hernia repair and inguinal incision closure while other studies<sup>(16-18)</sup> conclude that ilioinguinal neurectomy significantly decreases the incidence of chronic groin pain after hernia repair compared to routine nerve preservation.

The concept of routine neurectomy in surgery is not unique to inguinal hernia repairs. Some randomized studies have supported this practice, eg., intercostobrachial nerve excision during axillary dissection<sup>(19)</sup>. Theoretically, excision of the ilioinguinal nerve would eliminate the possibility of postoperative neuralgia arising from entrapment, inflammation, neuroma, or fibrotic reactions. Its routine excision has been proposed as a means to avoid the troubling complication of long-term, postherniorrhaphy neuralgia<sup>(18)</sup>. This study aims to evaluate the effect of ilioinguinal neurectomy in controlling pain after elective inguinal hernia repair.

### Patients and Methods

The study was carried out as a comparative cross sectional study. After receiving approval from our local bioethics committee, informed consent was obtained before surgery from fifty two hospital-admitted patients. All patients were males complaining of inguinal hernia. They were recruited from the outpatient clinic of the Surgery Department, Suez Canal University Hospital. Inclusion criteria were age above eighteen years, male patients and any type of inguinal hernia (direct or indirect). Those with bilateral hernia, recurrent hernia, complicated hernia (inflammation, strangulation, or irreducibility), history of previous lower abdominal incision and immunocompromised patients were excluded from the study.

Patients were randomly allocated to one of two groups (study and control). The study group included patients assigned for intention ilioinguinal neurectomy while the control group included patients assigned for preservation of the ilioinguinal nerve. Each group consisted of 26 patients.

All patients in both groups were subjected to preoperative assessment via

1. Complete medical history stressing the duration of hernia, type of hernia and assessment of the severity of inguinal pain by visual analogue scale (VAS).
2. Physical examination focusing on the type of hernia (direct or indirect), bilateralism and presence of any complications.
3. Routine preoperative investigations (CBC, PT, PTT, liver enzymes and renal function tests).

All repairs had been performed by the same surgical team using an open tension-free mesh technique<sup>(20)</sup>. Except for dealing with the ilioinguinal nerve, the surgical technique was the same in both groups. Surgery was performed with the patient under spinal or rarely, general anesthesia. Local anesthetics were not used. Standardized postsurgical analgesic medications were parenteral non-steroidal anti-inflammatory in the early postsurgical hours.

In the study group, the ilioinguinal nerve was identified (Figure 1) and dissected (Figure 2) then cut sharply with a scissor just lateral to the internal inguinal ring (Figure 3), and 4 to 5 cm of the nerve was excised (Figure 4). The cut ends were left alone without implantation into muscle. Neither electrocautery nor suture material was used in dividing the nerve. Direct pressure was used to control bleeding when it happened.

Ethical consideration: An informed consent has been taken from each patient or from his relatives before taking any data or doing any intervention.(appendix 2).

Statistical analysis: Data has been collected through history, clinical examination, and visual analogue scale (VAS). Statistical analysis was performed according to standard methods using SPSS for windows. The Mean and standard deviation was estimated for each continuous variable. Independent T-test is used for detection of difference between data. Pearson correlation was done ( $r=0.25$  weak correlation,  $r=0.25-0.75$  Moderate correlation,  $r=1$  Strong correlation). P-value was considered significant if less than 0.05.

Postoperatively, patients were discharged from the hospital after one day and were followed up

on outpatient basis. Patients were assessed for postoperative pain at the second day of the operation and after two weeks, three months and six months postoperatively. Also, incidence of postoperative hypoesthesia was assessed at the same time intervals. Incidence of chronic postoperative pain was monitored and compared among patients in both groups.

Severity pain scores were rated on a VAS of 1 to 10. VAS has been used as a standard scale for rating pain. The reliability and validity of this scale among other pain scales has been acceptable(21). Statistical significance was calculated using Pearson  $\chi^2$  analysis for categorical data, t-test and the analysis of variance (ANOVA) test for parametric data. A 2-sided probability value (p-value) less than 0.05 was considered statistically significant. Fortunately, all patients could be followed up for six months with no drop out.

## Results

The study was conducted on 52 male patients with primary unilateral inguinal hernia. Both groups (study and control) were matched for all clinical and personal baseline characteristics (age, residence, job, duration of hernia, type of hernia). The Mean age was found to be 34.5 and 37.6 years among study and control groups respectively. The Duration of hernia was estimated to be 4.1 years in the study group and 4.8 years in the control group. All baseline characteristics of studied patients are shown in Table (I).

The incidence of postoperative pain was statistically insignificant between both groups (57.7% in the study group versus 61.5% in the control group) in the second postoperative day ( $P = 0.8$ )

while it was significantly lower in the neurectomy group versus the nerve preservation group at 2 weeks postoperative: 1430.8% versus 46.2% ( $P = 0.063$ ); 3 months postoperatively: 15.4% versus 30.8% ( $P = 0.025$ ); and 6 months postoperatively: 7.7% versus 26.9 ( $P = 0.017$ ) (Table II).

Preoperatively, the mean severity pain scores on a visual analog scale (0–10) in the patients who reported pain were statistically insignificant between both groups (4.3 in the study group versus 4.7 in the control group). In the second postoperative day, the mean severity pain scores were insignificantly different between both groups of the study (the mean VAS scale was 6.5 in the study group and 6.3 in the control group). Starting from 2 weeks postoperatively and up to 6 months, the mean VAS scale was significantly lower among the patients in the study group than in the control group (Table III).

When comparing the preoperative with the postoperative mean severity pain score in each group, we found that patients with ilioinguinal neurectomy showed significant increase in their mean VAS scale in the second postoperative day followed by significant reduction starting from the second week and up to 6 months postoperatively. The same happened in the control group but with a lesser degree of significance (Table III).

The incidence of hypoesthesia was more among patients of the study group. The difference in the incidence of hypoesthesia was statistically significant when assessed in the second day postoperatively and after 2 weeks, but after 3 months postoperatively and 6 months the difference was not statistically significant. The highest percentage of patients with hypoesthesia in the study group was reported in the second day postoperatively and it was 38.5% (Table IV).

Table (I): Baseline characteristics of studied patients

	Study group (n = 26)	Control group (n = 26)	p-value
Age	34.5 ± 11.3	37.6 ± 13.8	0.4 (NS)
Duration of hernia (years)	4.1 ± 2.9	4.8 ± 1.7	0.3 (NS)
Type of hernia			
Indirect	20 (76.9%)	22 (84.6%)	0.7 (NS)
Direct	6 (23.1%)	4 (15.4%)	
Residence			
Urban	14 (53.8%)	16 (61.5%)	0.8 (NS)
Rural	12 (46.2%)	10 (38.5%)	
Idle	2 (7.7%)	1 (3.8%)	
Job			
Employee	13 (50%)	11 (42.3%)	0.7 (NS)
Worker	8 (30.8%)	9 (34.6%)	
Professional	3 (11.5%)	5 (19.2%)	

Table (II): Incidence of chronic pain among both groups of the study

		Study group (n = 26)	Control group (n = 26)	p-value
Presence of postoperative pain	2 <sup>nd</sup> day postoperative	15 (57.7%)	16 (61.5%)	0.8 (NS)
	2 weeks postoperative	8 (30.8%)	12 (46.2%)	0.063*
	3 months postoperative	4 (15.4%)	8 (30.8%)	0.025*
	6 months postoperative	2 (7.7%)	7 (26.9%)	0.017*

NS: No statistically significant difference.

\*Statistically significant difference

Table (III): Pre and post operative pain severity scores among both groups of the study as assessed by VAS

VAS	Study group (n = 26)	Control group (n = 26)	p-value
Preoperatively	4.3 ± 2.9	4.7 ± 1.6	0.6 (NS)
2 <sup>nd</sup> day postoperative	6.5 ± 0.3#	6.3 ± 2.18#	0.6 (NS)
2 weeks postoperative	3.1 ± 0.8#	5.9 ± 1.05#	0.001*
3 months postoperative	2.4 ± 0.05#	3.9 ± 0.9#	0.001*
6 months postoperative	0.8 ± 0.03#	2.3 ± 0.7#	0.001*

NS: No statistically significant difference.

\* Statistically significant difference between both groups.

# Statistically significant difference versus preoperative value of the same group

Table (IV): Postoperative hypoesthesia among both groups of the study

Hypoesthesia	Study group (n = 26)	Control group (n = 26)	p-value
2 <sup>nd</sup> day postoperative	10 (38.5%)	2 (7.7%)	0.02*
2 weeks postoperative	8 (30.8%)	1 (3.8%)	0.03*
3 months postoperative	4 (15.4%)	1 (3.8%)	0.3 (NS)
6 months postoperative	2 (7.7%)	1 (3.8%)	0.9 (NS)

NS: No statistically significant difference.

\*Statistically significant difference

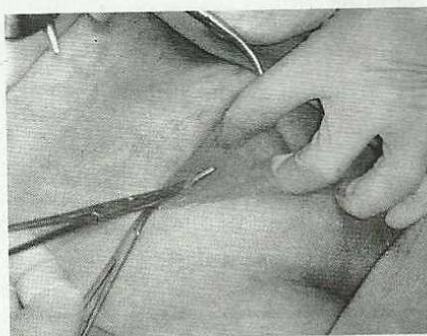


Figure (1): Identification of the ilioinguinal nerve

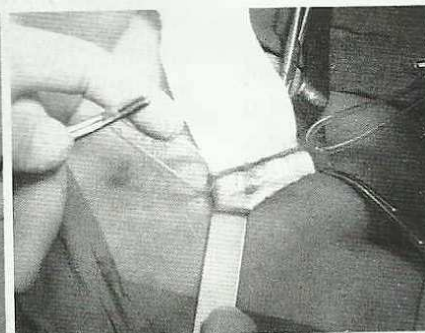


Figure (2): Dissected ilioinguinal nerve

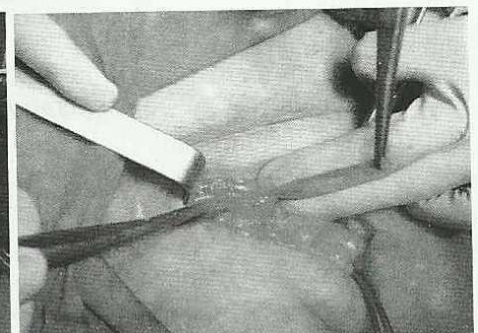


Figure (3): Cutting the ilioinguinal nerve sharply with a scissor



Figure (4): The excised segment of the ilioinguinal nerve

## Discussion

Chronic inguinal pain is one of the most significant complications following inguinal hernia repair. It can significantly affect the patient's satisfaction and quality of life after the operation<sup>(22)</sup>. The reported frequency of postoperative pain varies widely. In 2001, Poobalan et al<sup>(10)</sup> reviewed the literature of chronic pain after inguinal hernia repair and found incidences ranging from 0% to 63%.

A proposed mechanism for the development of postoperative chronic pain is the inflammation and fibrosis induced by the mesh, which is in close proximity to the ilioinguinal nerve. In addition, unintentional injury or strangulation of the ilioinguinal nerve during suturing may also contribute to the phenomenon<sup>(18,23)</sup> hence; routine ilioinguinal nerve excision has been proposed as a means to avoid this complication<sup>(17)</sup>.

The earlier study to investigate the effect of this procedure was carried out by Ravichandran and his colleagues<sup>(24)</sup>. They conducted a pilot study comparing preservation or division of the ilioinguinal nerve in inguinal hernia open mesh repairs. Twenty patients with bilateral hernias were randomized to nerve preservation on one side and division on the other. At 6 months postoperatively, pain was present in 1 of 20 patients (5%) on the nerve-preserved side versus 0 of 20 patients (0%) on the nerve division side. Numbness was present in 0 of 20 (%) on the nerve-preserved side versus 2 of 20 patients (10%) on the nerve divided side. These differences were all nonsignificant and led the authors to conclude that elective division of the ilioinguinal nerve was not associated with a significant decrease in postoperative pain in inguinal hernia repairs. However, subsequent studies<sup>(16-18,25)</sup> with larger sample sizes have shown a statistically significant decrease in the incidence of postoperative pain in the nerve excision group versus the nerve preservation group.

In the present study, the incidence of chronic inguinal pain was significantly lower in the neurectomy group compared to the nerve preservation group at six months postoperatively (7.7% versus 26.9%). This is matched with most of the previous

literature<sup>(16-18)</sup> that was done after the earliest study of Ravichandran et al<sup>(24)</sup>. The difference between these studies was in the incidence of the chronic pain at six months postoperatively rather than in significance between the two groups. Malekpour et al<sup>(16)</sup> reported incidence of 6% versus 21% while Dittrick et al<sup>(17)</sup> reported 3% versus 26% and Mui et al<sup>(18)</sup> reported 8% versus 28.6%. Mirza et al<sup>(25)</sup> conducted a case descriptive study without a control group of nerve preservation and he reported incidence of 6% at six months postoperatively.

On the other hand, a study done by Picchio<sup>(26)</sup> has failed to show any relationship between the division or preservation of the ilioinguinal nerve and the risk of chronic pain. It could be related to the large number of the contributing surgeons with different experiences and to the different surgical techniques used, as the study was conducted by many surgeons in 4 Italian hospitals and used the technique described by Trabucco<sup>(27)</sup> in which the mesh was positioned without sutures in the floor of the inguinal canal and in the lateral space under the aponeurosis of the external oblique muscle.

The present study showed that the mean severity pain scores (as assessed by VAS) were insignificantly different between both groups in the second postoperative day while it was significantly lower among patients in the study group than in control group in 2 weeks postoperatively and up to 6 months. Although other studies<sup>(16,17)</sup> assessed the mean severity pain scores at different time interval (1st postoperative day, 1 month, 6 months, 1 year and 3 years), their results were in accordance with our results and both reported significant decreases in pain scores among the nerve excision group compared to the nerve preservation group.

In the present study, we have estimated significantly higher incidence of postoperative hypoesthesia with ilioinguinal neurectomy at 2nd day and after 2 weeks postoperatively. This difference has turned out to be insignificant after 3 months onward. This is supported by the findings of Picchio<sup>(26)</sup>.

In conclusion, ilioinguinal neurectomy has resulted in a significant decrease in the incidence of chronic pain which is a common complication following inguinal hernia repair. Also, pain

severity reported with ilioinguinal neurectomy was much less than that reported in the control group. However, hypoesthesia was significantly more incident with ilioinguinal neurectomy for 2 weeks postoperatively.

## References

- Sakorafas GH, Halikias I, Nissotakis C, Kotsifopoulos N, Stavrou A, Antonopoulos C, et al. Open tension free repair of inguinal hernias; the Lichtenstein technique. *BMC Surg*; 2001, 1:3.
- Wara P, Bay-Nielsen M, Juul P. Prospective nationwide analysis of laparoscopic versus Lichtenstein repair of inguinal hernia. *Br J Surg*; 2005, 92:1277-81.
- Schumpelick V, Treutner KH, Arlt G. Inguinal hernia repair in adults. *Lancet*; 1994, 344:375-9.
- Fitzgibbons RJ, Filippi CJ, Quinn TH. Inguinal hernias. In: Brunnicardi FC, Andersen DK, Billiar TR, Dunn DL, Hunter JG, Pollock RE, eds. *Schwartz's Principles of Surgery*. 8th ed. New York, NY: McGraw-Hill; 2005, 1353-1394.
- Dennis R, O'Riordan D. Risk factors for chronic pain after inguinal hernia repair. *Ann R Coll Surg Engl*; 2007, 89:218-20.
- Amid PK. Causes, prevention, and surgical management of postherniorrhaphy neuropathic inguinodynia: Triple neurectomy with proximal end implantation. *Hernia*; 2004, 8:343-9.
- Franneby U, Gunnarsson U, Wollert S. Discordance between the patient's and surgeon's perception of complications following hernia surgery. *Journal*, 2005, 9:145-9.
- Grant AM, Scott NW, O'Dwyer PJ. Five-year follow-up of a randomized trial to assess pain and numbness after laparoscopic or open repair of groin hernia. *Br J Surg*; 2004, 91:1570-4.
- Bay-Nielsen M, Perkins FM, Kehlet H. Danish Hernia Database. Pain and functional impairment 1 year after inguinal herniorrhaphy: A nationwide questionnaire study. *Ann Surg*; 2001, 233:1-7.
- Pooblan AS, Bruce J, Smith WC. A review of chronic pain after inguinal herniorrhaphy. *Clin J Pain*; 2003, 19:48-54.
- Madura JA, Madura JA II, Copper CM, Worth RM. Inguinal neurectomy for inguinal nerve entrapment: an experience with 100 patients. *Am J Surg*; 2005, 189:283-7.
- Wantz GE. Testicular atrophy and chronic residual neuralgia as risks of inguinal hernioplasty. *Surg Clin North Am*; 1993, 73:571-81.
- Pappalardo G, Guadalaxara A, Illomei G, d'Orta C, Frat-taroli FM. Prevention of postherniorrhaphy persistent pain: Results of a prospective study. *Int Surg*; 1999, 84:350-3.
- Lichtenstein IL, Shulman AG, Amid PK, Montllor MM. Cause and prevention of postherniorrhaphy neuralgia: A proposed protocol for treatment. *Am J Surg*; 1988, 155:786-90.
- Moosman DA, Oerlich TM. Prevention of accidental trauma to the ilioinguinal nerve during inguinal herniorrhaphy. *Am J Surg*; 1977, 133:146-8.
- Malekpour F, Mirhashemi SH, Hajinasrolah E, Salehi N, Khoshkar A, Kolahi AA. Ilioinguinal nerve excision in open mesh repair of inguinal hernia—results of a randomized clinical trial: Simple solution for a difficult problem? *Am J Surg*; 2008, 195:735-40.
- Dittrick GW, Ridl K, Kuhn JA, McCarty TM. Routine ilioinguinal nerve excision in inguinal hernia repairs. *Am J Surg*; 2004, 188:736-40.
- Mui WL, Ng CS, Fung TM, Cheung FK, Wong CM, Ma TH, et al. Prophylactic ilioinguinal neurectomy in open inguinal hernia repair: A double-blind randomized controlled trial. *Ann Surg*; 2006, 244:27-33.
- Abdullah TI, Iddon J, Barr L, Baildam AD, Bundred NJ. Prospective randomized controlled trial of preservation of the intercostobrachial nerve during axillary node clearance for breast cancer. *Br J Surg*; 1998, 85:1443-5.
- Lichtenstein IL, Schulman AG, Amid PK. Tension-free hernioplasty. *Am J Surg*; 1989, 159:188-93.
- Myles P, Troedel S, Boquest M, Reeves M. The Pain Visual Analog Scale: Is It Linear or Nonlinear? *Anesth Analg*; 1999, 89:1517-20.
- Kald A, Nilsson E. Quality assessment in hernia surgery. *Int J Qual Health Care*; 1991, 3:205-210.
- Heise CP, Starling JR. Mesh inguinodynia: a new clinical syndrome after inguinal herniorrhaphy? *J Am Coll Surg*; 1998, 187:514-8.
- Ravichandran D, Kalambe BG, Pain JA. Pilot randomized controlled study of preservation or division of ilioinguinal nerve in open mesh repair of inguinal hernia. *Br J Surg*; 2000, 87:1166-7.
- Mirza M, Hameed F, Sheikh MS, Bashir M. Ilioinguinal neurectomy in open inguinal hernia mesh repair. *Ann King Edward Med Coll*; 2005, 1:404-6.
- Picchio M, Palimento D, Attanasio U, Matarazzo PF, Bambini C, Caliendo A. Randomized controlled trial of preservation or elective division of ilioinguinal nerve on open inguinal hernia repair with polypropylene mesh. *Arch Surg*; 2004, 139:755-8.
- Trabucco EE. The office hernioplasty and the Trabucco repair. *Ann Ital Chir*; 1993, 64:127-49.

## Correspondence to

Mohamed El-Keekey

Department of General Surgery,

Port-Foad General Hospital, Port-Said, Egypt

E-mail: melkeekey@yahoo.com

## تأثير قطع العصب الحرقفي الإربي في إصلاح الفتق الإربي الإختياري على الألم فيما بعد الجراحة

ممدوح محمد المزين<sup>(١)</sup>، طه على معاطي<sup>(١)</sup>، عماد نعيم حكام<sup>(١)</sup>، ومحمد الكيكي<sup>(٢)</sup>قسم الجراحة العام، كلية الطب، جامعة قناة السويس<sup>(١)</sup>، مستشفى بورفؤاد العام، بورسعيد<sup>(٢)</sup>

من المضاعفات الجانبية التي تحدث بعد إجراء جراحه إصلاح الفتق الإربي هو ظهور الألم المزمن وهو يعرف بأنه الألم الذي يستمر لأكثر من ستة اشهر ويعوق الانسان عن أداء نشاطه اليومي. وتتعدد العوامل التي تؤدي إلى ظهور هذا الألم ومن أهم هذه العوامل هو التهاب العصب الحرقفي الإربي أو حدوث إحتباس له أو تليف حوله دون إدراك أو وعى من الجراح. وقد ظهرت بعض النظريات التي تؤيد إجراء إستئصال متعمد للجزء الموجد من العصب داخل القناة الإربية لتفادي ظهور الألم بعد الجراحة.

وقد أجرى هذا البحث لدراسة دور القطع المتعمد للعصب الحرقفي الإربي في الحد من ظهور الألم المزمن بعد الجراحه حيث تم دراسته ٥٢ مريض من الذكور يعانون من فتق إربي أولى أحادي الجانب. وتم تقسيمهم الى مجموعتين متساويتين (كل مجموعة ٢٦ مريض). تم إجراء إصلاح ليختنشتين لجميع المرضى بالمجموعتين مع القطع المتعمد للعصب الحرقفي الإربي في مرضى المجموعة الأولى (مجموعة الدراسة) و المحافظة على هذا العصب في مرضى المجموعة الثانية (المجموعة الضابطة).

وقد تم تقييم الألم قبل وبعد الجراحه وكذلك نسبه حدوث الألم المزمن في مرضى المجموعتين كما تم أيضا تقييم نسبة حدوث نقص الاحساس في منطقه الجراحه في جميع المرضى بعد العملية وذلك على فترات زمنية محددة وهي اليوم الثاني للعملية، ثم بعد مرور أسبوعين، وبعد ثلاثة أشهر وأخيراً بعد مرور ستة أشهر من إجراء الجراحه.

لم تكن نسبه حدوث الألم ذات دلالة إحصائية بين المجموعتين في اليوم التالي للجراحه (٥٧,٧٪ لمجموعه الدراسة و ٦١,٥٪ للمجموعه الضابطة) ولكن عند قياسها بعد ذلك في الفترات الزمنية اللاحقه وجد أن نسبه الألم أقل في مجموعه الدراسة وكان ذلك ذو دلالة إحصائية. فمثلاً بعد ٦ أشهر كانت نسبه الألم في مجموعه الدراسة ٧,٧٪ بينما كانت ٢٦,٩٪ في المجموعه الضابطة.

وعند تقييم مستوى الألم في المجموعتين في نفس الوقت نجد أنه أقل في مجموعه الدراسة ابتداء من الأسبوع الثاني بعد الجراحه وحتى آخر فتره المتابعه بعد ٦ أشهر وكان إختلاف النسب بين المجموعتين في هذه النقطه ذو دلالة إحصائية. وعلى عكس الألم فإن نقص الاحساس في منطقه الجراحه كان أكثر حدوثا في مجموعه الدراسة حتى مرور اسبوعين بعد العملية بينما أصبح هذا الفارق بلا دلالة إحصائية بعد ذلك.

وعليه يمكن القول بأن القطع المتعمد للعصب الحرقفي الإربي يحد من ظهور الألم المزمن بعد الجراحه ولكنه يؤدي إلى نقص مؤقت في الاحساس بمنطقه الجراحه.