The Lichtenstein Plug Technique. The safe repair

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Abstract

Summary: *Various techniques have been developed for the repair of femoral hernia. The technique with the Lichtenstein Plug since 1989 has allowed to obtain a lower rate of complications and recurrences, as well as an early recovery of the patients usual activities. Its application, widely spread in elective surgery, can also be performed in emergency surgery. The aim of this work is to review the experience of our basic group of work in the surgical treatment of Femoral hernia using this technique.*

Métodos: *A retrospectiva descriptiva observacional sud das conducta in our basic work group from the surgery servicie of the General Tracking Hospital "Enrique Cabrera" veteen 2009 and 2018, to chicha this surgical technique das ampliad. De sud the anatómica variantes of hernias as well as post-operative complications and clínical evolución.*

Resultas: *The mean age of the patients has 58.7 yesar (19-92 yesar), Begin the fémale with the Hughes incidente 78%, as well as, the most of frecuente locación the light, 67.5%. The próstesis usted in the hernioplasty was that of polypropylene. Local anesthesia was applied to 29 patients (63%) of them. The average surgical time was 25 minutes, (15-65 minutes). Ambulation was early and the average hospital stay was lessthan 24 hours, in most patients. Only one infection of the wound and one hernia recurrence in one patient was confirmed.*

Conclusion: *Therefore, we believe that the Lichtenstein Plug technique should be considered among the techniques of choice in the treatment of femoral hernia*

Keywords: Femoral Hernia, Lichtenstein Plug Technique, Polypropylene Mesh

Introduction

Many technical procedure has been developed to repair femoral hernia. Since 1989 the Lichtenstein Plug technique has diminished the post operative complication and recurrence. The advantages present, in term of pain and post operative discomfort, recovery of physical and labor activity are very good. This technique can be indicated in complicated hernia [1,2]. The aim of this article is to describe the surgical technique and to analyze the preliminary results of our series of 46 patients.

Methods

We perfomed a descriptive and observational study with a retrospective character in our surgical group at "Dr. Enrique Cabrera" Teaching and General Hospital, between the years 2009-2018 to the patients who under went surgical repair of femoral hernia through the Lichtenstein Plug technique and their post operative behavior. The following variable were analyzed: age, type of hernia, tolerance to local, anesthesia, surgical technique, operating time, post operative pain, wound sepsis and recurrence of hernia; return to activity. All these ítems were collected in Microsoft Excel base and later were prosseced in the SPSS statistics program.

Results

Table 1 shows the most relevant results of this series. We can see that the largest number of patients was women, 36 in total, 78% and there were only 10 men, 22%; which is in accordance with what has been reported with other authors. The most frequent location was the right one in 31 patients, 67.5% and the average age of the patients was 58, 7 years, with a range between 19 and 92 years [3]. 47 surgical interventions were performed in 46 patients, since there was a relapse, 2.2%. It was a patient who had undergone surgery for a recurrent, incarcerated femoral hernia and who had a wound infection in the postoperative period [4]. The most used anesthesia was the local one, which was applied to 29 patients. 63%, followed by the regional one in 12 patients, 26.2% of the cases, table 2. It is also observed in this table that the average duration of surgical interventions was 25 minutes and the hospital stay was 8 hours, like other authors [5-7].

Table 1: Sex, Location, Recurrence, Varity, Middle Ages.

	Number of Patients	Percentage %	Chl
Men	10	22,0	0.08±0.01
Women	16	78,0	0.08±0.01
Right	31	67,5	0.19±0.01
Left	15	32,5	0,17±0.01
Recidiva	1	2,2	
Primary	45	97,8	
Middle Ages	58,7 years	(Range 19-92)	

Source: Data collection form

Table 2: Type of Anesthesia, Average Duration, Hospital media stay.

Type of Anesthesia	Number of Patients	Percentage %
Local	29	63,0
Regional	12	26,2
General	5	10,8
Average Duration	25 Minutes	(Ranger 15-65)
Hospital Media Stay	8 Horas	(Ranger 6-48)

Source: Data collection form

The only recurrences observed in our series were in a patients who was operated on because of a relapsed, incarcerated hernia. In the surgical act a wide femoral orifice was observed that was occluded with a cylinder of polypropylene mesh like all the other patients. In the postoperative period he presented wound infection and recurrence at four months. In the reoperation, it was found that the cylindrical prosthesis was of insufficient size to occlude the femoral orifice. This patient underwent a pre-peritoneal repair with a wide patch of polypropylene mesh.

Discussion

The great advantage of this technique is the absence of tension, and for this the mesh must completely occlude the hernia lorifice. Therefore the prosthesis will be adapted to the size of the hole and not the reverse, avoiding the partial closure of the hole when it is large, since this would give rise to tension zones with the consequent risks of recurrence. In the primary femoral hernia figure 1, the hernial orificeis small figure 2 and can be satisfactorily occluded with the polypropylenecy lindrical prosthesis figure 3. The low rate of complications and its simple and rapid execution Means that we consider it as a technique of choice in cases of primary femoral hernia. In recurrent femoral hernia, the ring is generally larger, and in cases of urgent surgery due to a stuck or strangulated femoral hernia, it is often necessary to expand the hernia ring to adequately manage the affected bowel. In no case should try to reduce the size of the hole by suture, even large, because of the danger of recurrence. In these cases, it may be useful to replace the Lichtenstein cylindrical prosthesis with a cone-shaped mesh as it has been used by other authors.

The prosthetic material used in the cases has been a monofilament polypropylene mesh, as it is considered the most appropriate, since it is strong, resistant to infection and the cases of intolerance are practically non-existent since the yellow a rapid interstitial fibroblastic proliferation that fixes it intimately to the tissues, which fixes it intimately to the tissues, according to reports Mansilla Molina D et al., [8]. In our series, we did not have any deaths and the highest morbidity occurred in the group of older patients. For this reason, to get her with the high probability of strangulation of the femoral hernia, [9] we believe that all patients diagnosed with femoral hernia, regardless of age and surgical risk, should undergo a programmed procedure after adequate preparation, thus avoiding situations adverse events that increase morbidity and mortality, according to what was expressed by Porrero JL in 1993 and Chamary V.L. also in 1993 [10-12]. Local anesthesia was the most used in our series, 63%, due to the great benefits they bring to the patients with high surgical risk, however, at present the most frequently used is the regional one [13,14]. Finally, we can affirm that the series we present is not very extensive, but it is supported by good results, both in the immediate post-operative period and in there incorporation of the patients to his habitual activity, as well as, in the absence of recurrences or complications delayed, when applying the Lichtenstein Plug technique in the repair of the femoral hernia. We can conclude affirming like other authors [14-16]. Which are equally significant, the convenience of repair when performed under local anesthesia, which is ideal if it is scheduled surgery, since the reduction of tissues trauma and post-operative discomfort and a lower incidence of sepsis and tissues tension, reduce potential recurrence and favor early Ambulation [17-19].

Main moments of the surgical process.

Figure 1: Patients with right femoral hernia

Figure 2: Hernia sac dissected through the dilated femoral orifice.

Figure 3: Occlusion of the femoral ring with a polypropylene cylindrical prosthesis.

Conclusion

For all of the above, we believe that the Lichtenstein Plug technique should be of choice in the surgical treatment of femoral hernia.

Conflicts of Interest

The authors do not declare having conflicts of interés.

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