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Editorial

Chronic pain after inguinal hernia surgery

Dolor crónico tras cirugía de la hernia inguinal

The recurrence rates for hernias have been for many years the principal and almost only indicator of the results of inguinal hernia surgery. At present, the massive use of tension-free prosthetic techniques, both in open surgery and endoscopic procedures, has achieved a reduction in recurrence rates. However, this indicator will continue to be valid as long as we continue to operate each year on around 10% of recurring hernias.

In recent years, the social evolution and professional interest in reaching higher levels of excellence has stimulated a change of attitude towards other indicators related to postoperative comfort and quality of life. Within this context, chronic pain following surgery has become the new centre of attention for surgeons, embodied in the majority of studies and publications on inguinal hernias.

What do we understand about chronic pain? According to the International Association for the Study of Pain, it is that which persists following a period of time that can be considered normal for the healing of tissues, which is estimated at about 3 months.[1] Chronic pain following inguinal hernia surgery is a long-term complication that has been well known by surgeons for many years, but which has not received sufficient attention, being eclipsed by recurrence and perhaps considered relatively infrequent, since the large studies from centres dedicated to hernia surgeries report incidence under 1%.[2]

However, in a society with an ever-lower threshold for pain and suffering, inguinal hernia surgeries can be no exception. Therefore, a multicentric study performed in Canada in 1995 by Cunningham et al. showed that, one year following the operation, the incidence of chronic pain was 63% with 12% of cases showing severe or moderate pain.[3] Given that inguinal hernias are one of the most common surgical procedures, with a yearly rate of 2,800 cases per million inhabitants in Europe and the United States, it is easy to take charge of the social health impacts presented by chronic postoperative pain.

Chronic pain is a difficult parameter to study, evaluate, and measure, due to its subjective character, and its incidence can depend on the method and moment of measurement. There is also a lack of agreement on the adequate instrument for objective quantification of the intensity of pain and its repercussions on the quality of life of the patients.[4] Several specific scales have been created to measure intensity and the impacts of post-herniorraphy pain on quality of life,[5] but their generalised use has not be adequately validated. The majority of studies published have been based on patient surveys, generally done by mail, in a variable timeline following the procedure and with variable response percentages, which could undervalue the real incidence of chronic pain and the magnitude of problems that this presents for the patients. Indeed, evidence is already suggesting an increase in the use of health services by the patients.

Cost studies representing chronic pain tend to be underestimated, since they only include direct costs from sanitary assistance and do not include social costs that are represented by loss of occupational time in cases of incapacitating pain and the reduction in productivity of these patients due to the impacts on their quality of life.[6] However, the economic and social aspects are not the only impacts, since chronic pain has an important impact on the patient's quality of life. In a national study performed in Denmark, 17% of the 1,166 patients operated on for inguinal hernias indicated not only work-related limitations, but also in sport and other leisure activities as the result of chronic inguinal pain.[7] In another study, a highly negative effect of inguinal pain was found on the performance of simple daily activities, such as walking or standing for a short time, sleep, social relations, character, and general enjoyment of life.[8] One of the most relevant aspects that up until now has been little studied is sexual dysfunction due to pain, which, according to published studies, can have a moderate to severe effect in up to 3% of young men operated on for inguinal hernias.[9]

In recent years, the number of published articles on chronic post-herniorraphy pain has increased notably, including systemic reviews from the literature.[10-12] The overall conclusion was that the incidence of this condition is around 12%. Multiple risk factors have been implicated in the appearance of chronic postoperative pain related to both the

patient and the surgical technique. The presence of several symptoms stand out, such as preoperative pain, patient personality, coincidence with other chronic pain symptoms, age, surgeries for recurring hernias or previous surgeries on the lower abdomen, intense immediate postoperative pain, incidence of postoperative complications, retributions for occupational incapacity, etc.[10-13]

Regarding the causes of post-herniorraphy chronic pain, nervous lesions emerge as the most plausible, when taking into account that in the inguinal region there are 4 nerves (ilioinguinal, iliohypogastric, genital branch o the genitofemoral nerve, and the femorocutaneous nerve) that could sustain lesions or injury during the surgery.[14] However, the published studies do not establish if identification and preservation of the nerves or excision is better, although they do suggest that the identification of the nerves may avoid injury and, presumably, could reduce the risk of chronic pain.[14] Post-herniorraphic pain has also been associated with the use of sutures or staples as a method for fixing the prosthesis, and with the disinsertion or folding of the mesh, an effect denominated "meshoma".[15]

However, in spite of the unquestionable social and health importance of this issue, no consensus has been reached on the treatment of choice for chronic inguinal pain. Pharmacological treatments have been proposed that are similar to those that are used in other pain neuropathies (gabapentin, triptizol). Electrical transcutaneous stimulation and physical therapy have also been tested. In the past few years, specialised chronic pain units have been the site for the development of radiofrequency ablation techniques of the nervous roots (L1-L3) and nerves of the inguinal region. Some authors, such as Amid, based on their excellent results,[15] maintain that surgery is the treatment of choice. The surgical technique consists of a triple neurectomy (ilioinguinal, iliohypogastric, and the genital branch of the genitofemoral nerve), and in patients with testicular pain, a 2cm resection of the lamina propria from the vas deferens. In cases with mesh folding or suture and/or staple insertion, mesh explant or suture removal would be the treatment of choice.[16] However, it is worth mentioning that in spite of the elevated incidence of chronic post-herniorrhaphy, few patients receive surgical interventions as a form of treatment, with the exception of reference centres.[15]

Current areas of research include whether or not the use of new auto-adhesive meshes or biological glues for prosthesis fixation, which avoids the use of sutures, achieves a lower incidence of chronic post-herniorrhaphy pain. Another important point is to determine the usefulness of low-density meshes, so popular today, to provoke a lower severity of fibrosis in the tissues and, as a consequence, lower rates of inflammatory reactions, which would give way to lower postoperative pain on the long- and short-term basis. However, the published studies for this type of mesh show controversial reports on pain, and some an increase in recurrence.[17]

In conclusion, although recurrence continues to be a relevant indicator and obligatory point for analysis in the results of hernia surgery, today it is completely necessary to include other parameters related to the comfort level and quality of life following the operation, especially the incidence of chronic pain. However, given the difficulties inherent to the evaluation of chronic pain, there are many research gaps that need to be filled, such as a consensus on the design and methodology of studies for identification of patients with risks for the disease, and studies on the efficacy of preventive measures and treatment regimens in these patients.

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