Lumbar juxtafacet cyst surgery

Different procedures have been used for the treatment of lumbar juxtafacet cysts (JFCs). Recently, full-endoscopic cyst excision has been suggested as a reasonable alternative [1)]

The cyst may be adherent to the dura. The cyst may also collapse during the surgical approach and may be missed. A JFC may serve as a marker for possible instability and should prompt an evaluation for the same. Some argue for performing a fusion since JFC may arise from instability; however, it appears that fusion is not required for a good result in many cases [2)]. Therefore it is suggested that consideration for fusion be made on the basis of any instability and not merely on the basis of the presence of a JFC. Minimally invasive spine surgery (MISS) has also been used for removal [3)]. Long-term follow-up is lacking. A 15 mm entry incision is made 1.5 cm lateral to midline. Following surgical treatment, symptomatic JFCs may recur or may develop on the contralateral side [4)].

Lumbar juxtafacet cyst (JFC) surgery is largely recommended in all cases of intractable pain or neurological deficit [5) 6) 7) 8) 9)].

If symptoms persist with conservative treatment, some authors recommend cyst aspiration or facet joint injection with steroids, while most surgeons prefer surgical excision of the cyst [10)].

The cyst may be adherent to the dura. The cyst may also collapse during the surgical approach and may be missed.

A JFC may indicate possible instability, which must be evaluated. Some recommend primary spinal fusion in conjunction with surgical excision of the JFC. However, it appears that in many cases fusion is not required for a good result [11)].

Therefore it is suggested that consideration for fusion be made on the basis of any instability and not merely on the basis of the presence of a JFC.

Few reports have described the long-term follow-up of the surgical excision of JFC.

The treatment was surgical excision of the cyst, as well as complete laminectomy if there was concomitant spinal stenosis. Follow-up, ranging from eighteen to twenty-five months, revealed complete resolution of the sciatica in all patients [12)].

Many authors reported that no difference in surgical outcome was found between patients having fusion and those who did not have it [13) 14)].

While others concluded that, a concomitant fusion procedure may be performed in selected cases [15)]

[16].

Métellus et al. [17] has concluded that there is no reliable criterion that allows the development of a symptomatic spinal instability to be predicted in patients with preoperative spondylolisthesis, and therefore, fusion as a first line procedure is still debatable. Others have mentioned an association between spinal cysts and spondylolisthesis/instability and better surgical outcomes in patients having fusion than in those who did not have it [18] [19] [20] [21].

Due to concerns about progressive instability, laminectomy with lumbar fusion has been advocated as the best treatment option for synovial cysts with spondylolithesis [22] [23]. However lumbar fusion procedures involve increased operative time and blood loss as well as the risk of developing adjacent segment disease [24].

Minimally invasive spine surgery

Studies using minimally invasive techniques with tubular retractors for decompression and resection of synovial cysts have showed promising results in a limited number of patients [25] [26] [27] [28].

This type of approach decreases damage to surroundings muscular, bony and ligamentous structures and could potentially minimize segmental instability, particularly in the presence of preexisting spondylolisthesis [29] [30] However there is no published study on minimally invasive resection of lumbar synovial cysts that compares outcomes between patients with and without spondylolisthesis.

A 15 mm entry incision is made 1,5 cm lateral to midline.

Following surgical treatment, symptomatic JFCs may recur or may develop on the contralateral side [31].

Systematic Review and Meta-Analysis

Giordan et al. performed a meta-analysis to assess the overall rates of favorable outcomes and adverse events for each available treatment and determine the outcome and complication rates concerning spine stability.

Multiple databases were searched for English-language studies involving adult patients with lumbar JFCs who had been followed for more than 6 months. Outcomes included the proportion of patients with a satisfactory outcome. Adverse events included recurrence and revision rates as well as intraoperative complications. They further stratified the analysis based on the spine's condition (lumbar degenerative spondylolisthesis vs without degenerative listhesis).

A total of 43 studies, including 2226 patients, were identified. Over 80% of patients experienced satisfactory improvement after surgical excision but only 66.2% after percutaneous cyst rupture and aspiration. Overall, recurrence and revision rates were almost double in patients with preoperative degenerative listhesis at the cyst level, especially in the minimally invasive group (2.1% vs 31.3% and 6.8% vs 13.1%, respectively). The rate of full-endoscopic satisfactory outcomes was approximately

90%, with low rates of adverse events (<2%).

They analyzed the outcome and adverse event rates for each kind of available treatment for JFC. Full endoscopy has outcomes and rates of adverse events that overlap with open and minimally invasive approaches [32]

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