Discogenic pain

Discogenic pain is pain originating from a damaged intervertebral disc, particularly due to degenerative disc disease. However, not all degenerated discs cause pain. Disc degeneration occurs naturally with age.

Discogenic pain (controversial) may be less prevalent in the late stages of DSD. May contribute to “musculoskeletal low back pain” but the actual pain generators here are not definitively identified

Once a fully degenerated disc no longer has any inflammatory proteins that can cause pain, the disc enters into a stable position. Hence, discogenic pain rarely occurs after 60 years of age.

Some of the basis for performing a discogram is to identify levels that may produce “discogenic pain” or “painful disc syndrome”, a controversial point. When the pain produced mimics the patient’s presenting pain, the pain is said to be “concordant.”

Classification

see Discogenic low back pain.

see also Thoracic discogenic pain.

Etiology

Discogenic Pain Etiology

Diagnosis

Discogenic Pain Diagnosis

Treatment

Discogenic pain treatment.

Case series

A single-center study included 80 patients and followed them for 6 months. Transforaminal laser annuloplasty (TFLA, 37 patients) or intradiscal radiofrequency annuloplasty (IDRA, 43 patients) was performed. The main outcomes included pain scores, determined by the numeric rating scale (NRS), and Oswestry disability index (ODI), at pre-treatment and at post-treatment months 1 and 6.

The patients were grouped according to procedure. In all procedures, NRS and ODI scores were significantly decreased over time. Mean post-treatment pain scores at months 1 and 6 were significantly lower ($P < 0.01$) in both groups, and between-group differences were not significant. The ODI score was also significantly decreased compared with baseline. Among patients undergoing TFLA, 70.3% (n = 26) reported pain relief (NRS scores < 50% of baseline) at post-treatment 6 months, vs. 58.1% (n = 25) of those undergoing IDRA. There were no statistically significant differences between the groups in ODI reduction of > 40%.

The results indicate that annuloplasty is a reasonable treatment option for carefully selected patients with lower back and radicular pain of discogenic origin, and TFLA might be superior to IDRA in patients with discogenic low back pain [1].

Thirty-two consecutive patients were intradiscally injected with 2 mL of 0.5% bupivacaine (control group). Another 31 consecutive patients were intradiscally injected with 40 mg tocilizumab and 1-2 mL of 0.5% bupivacaine (tocilizumab group) at the same time. Prior to treatment, the vertebral origin of low back pain was confirmed in all patients based on pain provocation during discography and pain relief with 1 mL of 1% xylocaine. Numeric rating scale and Oswestry disability index scores were used to evaluate pain level before and after treatment between the 2 groups. The association between pain relief with tocilizumab and intervertebral disc degeneration grade was also determined.

At the end of the study (8 weeks after treatment), 30 patients in each group were evaluable. In the tocilizumab group, numeric rating scale and Oswestry disability index scores improved significantly at 2 and 4 weeks after treatment, respectively. Intervertebral disc degeneration was not associated with improvement of numeric rating scale score in the tocilizumab group. Local infection (i.e., discitis) was observed in 1 patient in the tocilizumab group.

The results demonstrate the clinical relevance of interleukin-6 in discogenic low back pain. Intradiscal tocilizumab injection was shown to exert a short-term analgesic effect in patients with discogenic low back pain. Further research is required to determine the long-term effects of intradiscal tocilizumab therapy in patients with discogenic low back pain [2].

1)
Park CH, Lee KK, Lee SH. Efficacy of transforaminal laser annuloplasty versus intradiscal radiofrequency annuloplasty for discogenic low back pain. Korean J Pain. 2019 Apr 1;32(2):113-119. doi: 10.3344/kjp.2019.32.2.113. PubMed PMID: 31091510.

2)
Sainoh T, Orita S, Miyagi M, Inoue G, Yamauchi K, Suzuki M, Sakuma Y, Kubota G, Oikawa Y, Inage K, Sato J, Nakata Y, Aoki Y, Takahashi K, Ohtori S. Single intradiscal injection of the interleukin-6 receptor antibody tocilizumab provides short-term relief of discogenic low back pain; prospective comparative cohort study. J Orthop Sci. 2015 Nov 19. pii: S0949-2658(15)00068-8. doi: 10.1016/j.jos.2015.10.005. [Epub ahead of print] PubMed PMID: 26755382.