



Original article

Retrospective Analysis of the Effectiveness of Radiofrequency Ablation of the Lumbar Medial Branches

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Received: July 04, 2026

Revised: July 29, 2026

Accepted: August 15, 2026

Published: August 30, 2026

Citation: Tamerlan Shokanov, Talgat Anashev, Azamat Duisekhan, Dina Saginova, Yerdar Shaukhin.

Retrospective Analysis of the Effectiveness of Radiofrequency Ablation of the Lumbar Medial Branches. Trauma & Ortho Kaz, 2026, 77 (4), jto061.

<https://doi.org/10.52889/1684-9280-2026-77-4-jto061>

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Abstract

Chronic low back pain remains one of the leading causes of disability worldwide, with a significant proportion of cases attributable to the facet joints. Radiofrequency ablation (RFA) of the medial branch nerves is widely employed as a minimally invasive treatment modality; however, data regarding its long-term effectiveness in real-world clinical practice are limited.

Objective: To evaluate the clinical effectiveness of radiofrequency ablation of the lumbar medial branch nerves in patients with chronic low back pain due to facet joint pathology. **Methods.** A retrospective analysis was conducted of patients with chronic low back pain who underwent radiofrequency ablation of the lumbar medial branch nerves after a positive diagnostic block. Pain intensity was assessed using the Visual Analog Scale (VAS), and functional status was evaluated with the Oswestry Disability Index (ODI). Results were analyzed at baseline and during follow-up at 3, 6, and 12 months after the procedure.

Results. Patients demonstrated statistically and clinically significant reductions in pain intensity and improvements in functional status following radiofrequency ablation (RFA). The greatest therapeutic effect was observed during the first 6 months, with a gradual increase in VAS and ODI scores by 12 months, which likely reflects nerve regeneration and the progression of degenerative changes. Despite this trend, pain and disability levels remained significantly improved at 12 months compared to baseline.

Conclusions. Radiofrequency ablation of the lumbar medial branch nerves is an effective and safe minimally invasive method for the treatment of chronic low back pain associated with facet joint pathology, providing significant pain relief and improvement in functional status for up to 12 months. These results support the use of radiofrequency ablation as a valuable component of interventional pain management in appropriately selected patients.

Keywords: chronic low back pain, facet joint pain, radiofrequency ablation, medial branch nerves, interventional pain management, Oswestry Disability Index.

1. Introduction

Chronic low back pain (CLBP) remains one of the major causes of reduced quality of life, loss of work capacity, and increasing healthcare expenditures. According to global estimates, low back pain consistently ranks among the leading conditions in terms of years lived with disability (YLDs), remaining a leading cause of disability in many regions of the world [1,2].

Low back pain is heterogeneous in origin and often lacks a single anatomical pain generator, which complicates diagnosis and treatment selection. Among the potential pain generators, the zygapophyseal (facet) joints play an important role: contemporary reviews indicate that facet-mediated pain occurs in a substantial proportion of patients with CLBP, while underrecognition of the facet component remains a common problem in clinical practice [3].

The anatomical and functional significance of the facet joints is related to their role in stabilizing and guiding spinal motion and to their rich nociceptive innervation. Facet joints are innervated by the medial branches of the dorsal rami of the spinal nerves at the level of the corresponding joint and one level above, providing the anatomical basis for diagnostic and therapeutic interventions targeting these neural structures [3,4].

Clinical diagnosis of facet joint pain syndrome is challenging because of the low specificity of symptoms, physical examination findings, and imaging. Contemporary sources emphasize the weak correlation between the severity of degenerative facet joint changes on MRI/CT and the presence or intensity of pain, which limits the diagnostic value of imaging findings alone [4].

Accordingly, diagnostic medial branch blocks (MBBs) are regarded as the principal tool for confirming a facet-mediated source of pain and selecting patients for interventional treatment. International multidisciplinary guidelines emphasize that MBBs have greater prognostic value for radiofrequency ablation (RFA) outcomes than intra-articular injections, and that stricter selection criteria increase the likelihood of successful denervation, although they may also increase the risk of false-negative results [5].

Radiofrequency ablation of the medial branches is one of the most widely used minimally invasive

treatments for confirmed facetogenic pain. The effect of the procedure is based on creating a thermal lesion of the nerve fibers, thereby reducing transmission of nociceptive impulses from the facet joint. According to a systematic review and meta-analysis, lumbar facet RFA has Level II evidence for both short-term effectiveness (≤ 6 months) and longer-term outcomes (≥ 6 months) in appropriately selected patients [7].

Nevertheless, study results remain heterogeneous. One explanation is the influence of methodology, including patient selection criteria (single or dual diagnostic blocks and the pain-relief threshold) and procedural technique, particularly electrode orientation relative to the nerve. Systematic reviews and guidelines indicate that better outcomes are achieved with stricter patient selection and parallel electrode placement relative to the medial branch, whereas less stringent criteria and alternative technical approaches are associated with lower rates of clinically meaningful pain relief [5,6].

Further debate has been fueled by large sham-controlled studies. In the MINT trials, adding radiofrequency denervation to a standardized exercise program did not demonstrate clinically meaningful advantages over exercise alone in some patients, underscoring the importance of appropriate patient selection and procedural standardization when interpreting results and translating them into clinical practice [8].

Given the conflicting evidence and the fact that real-world clinical practice often differs from randomized controlled trial settings because of comorbidities, variability in degenerative changes, and mixed pain mechanisms, retrospective evaluation of clinical and functional outcomes after medial branch RFA in a specialized center remains relevant. The present study was designed to assess changes in pain and functional status over 12 months after RFA in patients with confirmed facetogenic pain [5,7].

Study Objective: To evaluate the clinical effectiveness and durability of the analgesic effect of radiofrequency ablation of the medial branches of the dorsal rami of the lumbar spinal nerves over a follow-up period of up to 12 months.

2. Materials and methods

A single-center retrospective observational study was conducted based on the analysis of medical records of patients treated at Orthopedic Department No. 1 of the National Scientific Center for Traumatology and Orthopedics named after Academician N.D. Batpenov.

Each patient had a follow-up period of at least 12 months.

Patient Characteristics

The study included 78 patients with chronic low back pain. Of these, 48 were women (61.5%) and 30

were men (38.5%). The mean age was 56.3 ± 8.9 years, with a range of 38–74 years. Most patients were of working age; no marked age differences were identified between men and women.

Inclusion Criteria

- chronic low back pain lasting more than 6 months;
- lack of a satisfactory response to conservative treatment, including pharmacotherapy, physiotherapy, and therapeutic exercise;
- clinical and imaging signs of facet joint pain syndrome;
- a positive response to diagnostic blocks of the medial branches of the dorsal rami of the spinal nerves (pain reduction of at least 50% on the VAS);
- completed follow-up of at least 12 months.

Exclusion Criteria

- Patients were excluded from the study if one or more of the following factors were present:
- clinical and/or imaging evidence of nerve root compression (radiculopathy) confirmed by MRI or CT;
- infectious spinal lesions (spondylitis or spondylodiscitis);
- spinal tumors, including primary and metastatic lesions;
- inflammatory spinal disorders, including spondyloarthritis;
- lumbar spine surgery performed less than 12 months before radiofrequency ablation;
- marked instability of spinal segments;
- severe concomitant somatic disease limiting the feasibility of interventional treatment.

Intervention Technique

All patients underwent radiofrequency ablation of the medial branches of the dorsal rami of the spinal nerves at the L3–L5 levels. The procedure was performed in the operating room under fluoroscopic

guidance (C-arm) using standard aseptic and antiseptic precautions.

After positioning the cannula in the “Scottie dog eye” projection, sensory and motor stimulation was performed to confirm correct electrode placement. Radiofrequency ablation was performed at 80–85 °C with a 90-second lesion time at each treatment point.

Effectiveness Assessment

Clinical effectiveness was assessed using the visual analog scale for pain (VAS, 0–10 points) and the Oswestry Disability Index (ODI, %). Outcomes were recorded before the intervention, at discharge, and at 3, 6, and 12 months after the procedure.

Safety

During follow-up, no complications associated with radiofrequency ablation, including infectious, neurological, or vascular complications, were recorded. All patients tolerated the procedure satisfactorily.

Research Ethics

The study was approved by the Local Bioethics Committee of the Republican State Enterprise on the Right of Economic Management “National Scientific Center for Traumatology and Orthopedics named after Academician N.D. Batpenov” of the Ministry of Healthcare of the Republic of Kazakhstan. Approval was granted at the committee meeting on October 9, 2024 (Protocol No. 3/11). The study was conducted in accordance with the principles of the Declaration of Helsinki and applicable regulatory requirements.

Statistical Analysis

Statistical analysis was performed using descriptive statistics. Quantitative data are presented as mean $\pm$ standard deviation ($M \pm SD$). Changes in outcomes over time were compared using a paired t-test. Differences were considered statistically significant at $p < 0.05$.

3. Results

The study included 78 patients with chronic low back pain: 48 women (61.5%) and 30 men (38.5%). The mean age was 56.3 ± 8.9 years (range, 38–74 years).

Table 1 - Baseline Characteristics of Patients (n=78)

Parameter	Value
Women, n (%)	48 (61.5%)
Men, n (%)	30 (38.5%)
Age, years ($M \pm SD$)	56.3 ± 8.9
Age, years (min–max)	38–74
VAS before intervention, points ($M \pm SD$)	7.6 ± 0.9
ODI before intervention, % ($M \pm SD$)	46.8 ± 9.7

Changes in Pain and Functional Status.

Following radiofrequency ablation, a statistically and clinically significant reduction in pain intensity and

improvement in functional status were observed compared with baseline.

Table 2 - Changes in VAS and ODI After RFA (n=78)

Assessment time point	VAS, points (M±SD)	ΔVAS	ODI, % (M±SD)	ΔODI
Before intervention	7.6 ± 0.9	–	46.8 ± 9.7	–
Discharge	2.3 ± 0.8	–5.3	18.5 ± 6.2	–28.3
3 months	2.6 ± 0.9	–5.0	20.4 ± 6.8	–26.4
6 months	2.9 ± 1.0	–4.7	22.7 ± 7.4	–24.1
12 months	3.4 ± 1.2	–4.2	26.1 ± 8.3	–20.7

Subgroup Analysis (Sex and Age). According to the source analysis, no substantial differences in treatment

effectiveness were identified between subgroups according to sex or age.

Table 3 - Subgroup Analysis of RFA Effectiveness at 12 Months

Subgroup	ΔVAS (95% CI)	ΔODI (95% CI)	p*
Women	–4.1 (–4.5; –3.7)	–20.5 (–23.2; –17.8)	<0.001
Men	–4.3 (–4.8; –3.9)	–21.0 (–24.1; –18.2)	<0.001
Age <55 years	–4.4 (–4.9; –3.9)	–22.1 (–25.0; –19.4)	<0.001
Age ≥55 years	–4.0 (–4.6; –3.5)	–19.6 (–22.4; –16.9)	<0.001

Note: p* values reflect the statistical significance of within-subgroup changes; separate p-values for direct between-group comparisons by sex and age were not provided in the source dataset.

4. Discussion

This retrospective study demonstrated clinically meaningful and sustained effectiveness of radiofrequency ablation (RFA) of the lumbar medial branches in patients with confirmed facet joint pain syndrome. Significant reductions in VAS pain intensity and improvements in functional status according to the Oswestry Disability Index (ODI) were maintained throughout the 12-month follow-up period. A mean reduction in pain of 4.2 VAS points and a 20.7-point reduction in ODI at 12 months indicate a substantial and durable clinical effect of the intervention. Importantly, although some attenuation of the therapeutic response was observed over time, both pain intensity and disability remained considerably improved compared with baseline at the final follow-up.

The findings are comparable with data from contemporary international studies. In the prospective real-world RAPID study (Provenzano et al., 2025), clinically meaningful reductions in pain and disability following lumbar medial branch RFA were maintained during long-term follow-up, with a substantial proportion of patients achieving at least 50% pain relief [9]. Similar findings were reported by Conger et al.

(2020): among patients selected using guideline-concordant dual diagnostic medial branch blocks, a pronounced analgesic effect was maintained in a considerable proportion of patients during follow-up [10]. Thus, the magnitude and trajectory of pain relief observed in the present study are consistent with the range reported in contemporary clinical literature.

Additional support is provided by the randomized prospective study of McCormick et al. (2023), which compared cooled lumbar RFA with facet joint corticosteroid injection in patients selected using dual medial branch blocks [11]. In that study, 70%, 55%, and 45% of patients treated with cooled RFA met the predefined pain-response criterion at 3, 6, and 12 months, respectively, compared with 25%, 25%, and 17% in the facet injection group. Although the sample size was relatively limited, the persistence of clinically meaningful benefit at 12 months supports the concept that medial branch neurotomy may provide longer-lasting pain relief than injection-based treatment in appropriately selected patients.

The effectiveness of RFA has also been supported at the evidence-synthesis level. A 2024 systematic review and meta-analysis of placebo-controlled

randomized trials by Láinez Ramos-Bossini et al. demonstrated statistically significant benefits of radiofrequency treatment for lumbar facet joint pain in terms of pain reduction during short-, intermediate-, and long-term follow-up [12]. Improvements in functional disability were also demonstrated at several follow-up intervals. These findings are particularly relevant to the present study because they suggest that the observed reduction in VAS and ODI is not limited to uncontrolled observational cohorts but is broadly compatible with evidence obtained from randomized placebo-controlled trials.

Improvement in functional status represents an important component of treatment success because reduction in pain intensity alone does not necessarily translate into restoration of physical activity or daily functioning. In the systematic review and meta-analysis by Janapala et al. (2021), medial branch RFA was associated with improvement in functional outcomes, including ODI, during short- and longer-term follow-up [7]. In the present study, an ODI reduction of 20.7 points at 12 months represents marked functional improvement and suggests that the clinical benefit extended beyond subjective pain reduction. This is important in chronic facetogenic low back pain, where limitations in walking, prolonged standing, occupational activities, and activities of daily living frequently contribute substantially to the overall disease burden.

The observed trend toward a gradual increase in VAS and ODI values by the 12-month follow-up is also consistent with the expected biological course after radiofrequency neurotomy. RFA produces a thermal lesion of the medial branch rather than permanent destruction of the entire sensory pathway, and subsequent peripheral nerve regeneration may gradually restore nociceptive transmission. Schneider et al. (2020) emphasized that the duration and magnitude of the therapeutic response are influenced not only by nerve regeneration but also by patient-selection criteria and procedural technique [6]. Consequently, recurrence or partial return of pain several months after initially successful RFA should not necessarily be interpreted as treatment failure, particularly when pain and disability remain substantially below baseline levels.

The clinical relevance of repeat RFA should also be considered in this context. In a large retrospective cohort study based on insurance claims, Starr et al. evaluated 44,936 patients who underwent lumbar medial branch RFA and demonstrated that repeat procedures are common in routine clinical practice [13]. Repeat RFA was performed in 14.6% of patients within one year and in approximately one-third of patients

within three years. These findings indirectly support the concept that recurrence of facetogenic pain after an initially successful procedure is an expected part of the long-term clinical course rather than evidence that the initial procedure was ineffective. Importantly, repeat treatment can therefore be considered when the original pain pattern recurs after a clinically meaningful period of relief, provided that other potential pain generators have been excluded.

Patient selection remains one of the most important determinants of RFA outcomes. Facetogenic pain cannot be reliably diagnosed solely on the basis of symptoms, physical examination, or degenerative changes observed on CT or MRI. Diagnostic medial branch blocks therefore have an important prognostic role before neurotomy. Contemporary guidelines and systematic reviews suggest that more rigorous selection using controlled or dual diagnostic blocks generally increases the probability of a successful response to RFA, although more restrictive criteria may also exclude some patients who could potentially benefit [5,6]. The favorable clinical outcomes in the present cohort may therefore be related, at least in part, to confirmation of the facetogenic origin of pain before definitive radiofrequency treatment.

Procedural technique represents another potential determinant of treatment success. Electrode orientation, cannula position relative to the medial branch, active-tip dimensions, lesion temperature and duration, and adequate lesion coverage can influence the probability of successful nerve coagulation. Incomplete lesioning may result in an insufficient or short-lived response despite otherwise appropriate patient selection. This may partly explain the variability in treatment effectiveness reported across published studies. Consequently, the outcomes of RFA should be interpreted not simply as an intrinsic property of the technology, but as the result of an interaction between diagnostic accuracy, patient selection, anatomy, and technical execution.

Recent randomized evidence further supports this interpretation. In a multicenter randomized trial published in 2026, Provenzano et al. compared cooled RFA with standard RFA in patients with facetogenic lumbar pain confirmed by two positive medial branch blocks [15]. At 6 months, at least 50% pain reduction was achieved in 74.1% of patients treated with cooled RFA and 64.7% of those treated with standard RFA. Both techniques produced statistically significant and clinically relevant improvements in pain, ODI, quality of life, and global perceived effect, with benefits extending through 12 months. Cooled RFA met the predefined criterion for non-inferiority to standard RFA. Although the trial was terminated before reaching

its intended enrollment and should therefore be interpreted cautiously, its findings reinforce the concept that appropriately performed medial branch RFA can provide meaningful clinical improvement across different radiofrequency technologies [15].

The absence of marked differences in RFA effectiveness between sex and age subgroups in the present study suggests that these demographic variables were not major modifiers of treatment response within the analyzed cohort. This observation is clinically relevant because degenerative facet joint disease occurs across a broad age range and is common in both men and women. Nevertheless, the absence of statistically significant subgroup differences should not be interpreted as definitive evidence that age or sex has no influence on outcome. Retrospective studies are generally insufficiently powered for detailed interaction analyses, particularly when subgroup sample sizes are limited. Larger prospective cohorts would be required to determine whether demographic, anatomical, psychological, or comorbidity-related factors can reliably predict individual treatment response.

Beyond pain and functional improvement, RFA may potentially influence other dimensions of chronic pain management. Starr et al. reported that among patients using prescription opioids before RFA, approximately one-quarter discontinued filling opioid prescriptions within 180 days after the procedure [13]. Although claims-based data cannot establish a causal relationship between RFA and opioid discontinuation, these findings suggest that successful interventional treatment of the underlying pain generator may contribute to reduced reliance on systemic analgesic therapy in selected patients. Future prospective studies should therefore consider incorporating analgesic consumption, return to work, quality of life, and patient global impression of change as complementary outcomes alongside conventional VAS and ODI measurements.

The absence of recorded complications in the present study is consistent with the generally favorable safety profile of lumbar medial branch RFA reported in contemporary literature. Serious neurological, infectious, or hemorrhagic adverse events appear to be uncommon when the procedure is performed using appropriate image guidance, anatomical landmarks, and standard safety precautions [5]. Nevertheless, the absence of documented adverse events in a retrospective cohort should be interpreted cautiously because minor or transient symptoms may not always be systematically captured in medical records.

One potential long-term issue that has received increasing attention is the effect of medial branch

denervation on the lumbar multifidus muscle, because the medial branches provide motor innervation to the multifidus in addition to sensory innervation of the facet joints. Tieppo Francio et al. (2024) systematically reviewed the available evidence regarding multifidus structural and functional changes after lumbar RFA [14]. Some included studies demonstrated reduced multifidus function, decreased cross-sectional area, or increased fatty infiltration, whereas others found no structural deterioration. Overall, the authors concluded that the certainty of evidence was very low because of the small number of available studies, methodological heterogeneity, and risk of bias. Therefore, a clinically important adverse effect of medial branch RFA on spinal stability has not been established, but this issue warrants further prospective investigation, particularly in patients undergoing repeated multilevel procedures.

Several limitations of the present study should be acknowledged. First, the retrospective design introduces potential selection and information bias and does not allow control over all relevant clinical or procedural variables. Second, the absence of a sham or active control group prevents definitive attribution of all observed improvements exclusively to RFA and limits direct comparison with the natural history of facetogenic pain or other interventions. Third, reliance on routinely collected clinical data may result in incomplete capture of minor adverse events, analgesic consumption, psychosocial factors, or additional treatments received during follow-up. Furthermore, VAS and ODI, although well-established outcome measures, do not encompass all clinically relevant domains, such as quality of life, patient satisfaction, return to work, sleep quality, or reduction in medication use.

Despite these limitations, the study reflects outcomes achieved in routine clinical practice and therefore provides useful real-world evidence regarding the effectiveness of medial branch RFA. The sustained improvement in both pain and disability over 12 months, combined with the absence of recorded major complications, supports the use of lumbar medial branch RFA in appropriately selected patients with confirmed facetogenic pain who remain symptomatic despite conservative treatment. The consistency of the observed outcomes with prospective studies, randomized trials, and recent meta-analyses further strengthens the clinical relevance of these findings [9–12,15].

Future prospective multicenter studies should incorporate standardized diagnostic block protocols, predefined technical parameters for RFA, larger sample sizes, and multidimensional outcome assessment. Longer follow-up beyond 12 months would also allow

characterization of the timing of pain recurrence, the proportion of patients requiring repeat neurotomy, and the effectiveness of repeated procedures. In addition, investigation of imaging and clinical biomarkers that predict treatment response may enable more individualized selection of candidates for RFA.

Overall, the present findings support lumbar medial branch RFA as an effective and relatively safe minimally invasive treatment for chronic facetogenic low back pain. The persistence of clinically meaningful improvements in VAS and ODI at 12 months suggests that the procedure can provide sustained analgesic and functional benefit in appropriately selected patients. These results are consistent with the current international evidence base and further support the role of medial branch RFA as part of a multimodal treatment strategy for chronic lumbar facet joint pain.

5. Conclusions

The results of this retrospective analysis show that radiofrequency ablation of the medial branches of the dorsal rami of the spinal nerves in patients with confirmed chronic lumbar facet joint pain syndrome is associated with clinically and statistically significant reductions in pain intensity and improvements in functional status. The effect was evident early after the intervention and persisted throughout 12 months of follow-up.

The greatest reductions in VAS and Oswestry index values were observed in the early post-procedural period, followed by gradual attenuation of the effect by month 12. Nevertheless, the outcomes did not return to baseline. This trajectory is consistent with published evidence and likely reflects nerve fiber regeneration and progression of degenerative changes in the facet joints.

Within the analyzed cohort, treatment effectiveness did not differ substantially according to patient sex or age. This primarily underscores the importance of an appropriate diagnostic algorithm and careful selection of patients with a confirmed facetogenic source of pain. The absence of recorded complications indicates a favorable safety profile of RFA when the procedure is performed in a specialized center under fluoroscopic guidance.

Despite the limitations of the retrospective design and the absence of a control group, the data reflect real-world clinical practice and support the use of medial branch radiofrequency ablation as a component of

Limitations

Several limitations of the present study should be noted. These include the retrospective design, the absence of a control group, and the inability to directly compare RFA with alternative treatments. In addition, retrospective analysis cannot completely exclude the influence of concomitant factors, including changes in patients' physical activity levels and continuation of supportive therapy during follow-up. The source dataset also does not provide separate p-values for direct between-group comparisons by sex and age. Nevertheless, the study reflects real-world clinical outcomes from a specialized orthopedic center and demonstrates a durable treatment effect in routine practice.

comprehensive treatment in carefully selected patients with chronic lumbar facetogenic pain. Further prospective randomized studies with longer follow-up are needed to clarify optimal indications, the timing of repeat procedures, and factors influencing the duration of clinical benefit.

Funding. The study was not conducted as part of a research project. The authors received no financial support from pharmaceutical or medical equipment manufacturers.

Conflict of interest: None.

Author Contributions: T.S., T.A. - contributed to the study conception, design, and methodology. T.S., E.S., A.D. - contributed to data collection and clinical assessment. T.S. - performed data analysis and prepared the original manuscript draft. T.A., D.S. - supervised the study and critically revised the manuscript. All authors reviewed and approved the final version of the manuscript.

Declaration on the Use of Artificial Intelligence. Generative artificial intelligence tools (ChatGPT, OpenAI) were used solely for language editing, improvement of academic style, and refinement of the English text. The authors independently verified all scientific content, data, interpretations, references, and conclusions and take full responsibility for the final version of the manuscript. Artificial intelligence was not used for data generation, statistical analysis, or interpretation of the study results.

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Бел омыртқасының медиальды тармақтарына радиожиліктік абляцияның тиімділігін ретроспективті талдау

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Түйіндеме

Бел аймағындағы созылмалы ауырсыну бүкіл әлемде мүгедектіктің жетекші себептерінің бірі болып қала береді, бұл ретте фасеттік буындардың үлесіне жағдайлардың едәуір бөлігі тиесілі. Жүйкелердің медиальды тармақтарына радиожиіліктік абляция (РЖА) аз инвазивті емдеу әдісі ретінде кеңінен қолданылады. Алайда нақты клиникалық тәжірибеде оның ұзақ мерзімді тиімділігі туралы деректер шектеулі.

Зерттеудің мақсаты: Фасеттік буындардың зақымдануынан туындаған бел аймағындағы созылмалы ауырсынуы бар науқастарда бел жүйкелерінің медиальды тармақтарына жасалған радиожиіліктік абляцияның клиникалық тиімділігін бағалау.

Әдістері. Оң диагностикалық блокададан кейін бел жүйкелерінің медиальды тармақтарына радиожиіліктік абляция жасалған, бел аймағындағы созылмалы ауырсынуы бар науқастарға ретроспективті талдау жүргізілді. Ауырсыну қарқындылығы визуалды аналогтық шкала (ВАШ) арқылы, ал функционалдық жағдай Освестри мүгедектік индексі (ODI) арқылы бағаланды. Нәтижелер бастапқы деңгейде және процедурадан кейінгі 3, 6 және 12 айлық бақылау барысында талданды.

Нәтижелері. Науқастарда РЖА-дан кейін ауырсыну қарқындылығының статистикалық және клиникалық тұрғыдан мәнді төмендеуі және функционалдық жағдайдың жақсаруы байқалды. Ең жоғары терапиялық әсер алғашқы 6 ай ішінде байқалды, 12 айға қарай ВАШ және ODI көрсеткіштері біртіндеп жоғарылады. Бұның жүйкелердің регенерациясын және дегенеративті өзгерістердің үдеуін көрсетуі ықтимал. Осы үрдіске қарамастан, 12 айдан кейін ауырсыну мен мүгедектік деңгейі бастапқы деңгеймен салыстырғанда айтарлықтай төмен болып сақталды.

Қорытынды. Бел жүйкелерінің медиальды тармақтарына радиожиіліктік абляция жасау фасеттік буындарға байланысты созылмалы бел ауырсынуын емдеудің тиімді және қауіпсіз аз инвазивті әдісі болып табылады. Ол 12 айға дейін ауырсынудың айтарлықтай азаюын және функционалдық жағдайдың жақсаруын қамтамасыз етеді. Бұл нәтижелер дұрыс іріктелген науқастарда РЖА-ны ауырсынуды интервенциялық емдеудің құнды құрамдас бөлігі ретінде қолданудың орындылығын растайды.

Түйін сөздер: бел аймағындағы созылмалы ауырсыну, фасеттік ауырсыну синдромы, радиожиіліктік абляция, медиальды тармақтар, ауырсынуды интервенциялық емдеу, Освестри индексі.

Ретроспективный анализ эффективности радиочастотной абляции медиальных ветвей поясничного отдела позвоночника

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Резюме

Хроническая боль в пояснице остается одной из ведущих причин инвалидности во всем мире, при этом на фасеточные суставы приходится значительная доля случаев. Радиочастотная абляция (РЧА) медиальных ветвей нервов широко используется в качестве малоинвазивного метода лечения. Однако данные о ее долгосрочной эффективности в реальной клинической практике ограничены.

Цель исследования: оценить клиническую эффективность радиочастотной абляции медиальных ветвей поясничных нервов у пациентов с хронической болью в пояснице, вызванной поражением фасеточных суставов.

Методы. Был проведен ретроспективный анализ пациентов с хронической болью в пояснице, которым была выполнена радиочастотная абляция медиальных ветвей поясничных нервов после положительной диагностической блокады. Интенсивность боли оценивалась с помощью визуальной аналоговой шкалы (ВАШ), а функциональное состояние — с помощью индекса инвалидности Освестри (ODI). Результаты анализировались на исходном уровне и в ходе последующего наблюдения через 3, 6 и 12 месяцев после процедуры.

Результаты. У пациентов наблюдалось статистически и клинически значимое снижение интенсивности боли, и улучшение функционального состояния после РЧА. Наибольший терапевтический эффект наблюдался в течение первых 6 месяцев, с постепенным увеличением показателей ВАШ и ODI к 12 месяцам, что, вероятно, отражает регенерацию нервов и прогрессирование дегенеративных изменений. Несмотря на эту тенденцию, уровень боли и инвалидности через 12 месяцев оставался значительно улучшенным по сравнению с исходным уровнем.

Выводы. Радиочастотная абляция медиальных ветвей поясничных нервов является эффективным и безопасным малоинвазивным методом лечения хронической боли в пояснице, обусловленной фасеточными суставами, обеспечивающим значительное облегчение боли и улучшение функционального состояния в течение до 12 месяцев. Эти результаты подтверждают целесообразность использования РЧА в качестве ценного компонента интервенционного лечения боли у правильно отобранных пациентов.

Ключевые слова: хроническая боль в пояснице, фасеточный болевой синдром, радиочастотная абляция, медиальные ветви, интервенционное лечение боли, индекс инвалидности Освестри.