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Management of Piriformis Syndrome: From physiotherapy to surgical intervention

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ABSTRACT

Piriformis syndrome (PMS) is a neuromuscular condition caused by compression of the sciatic nerve by the piriformis muscle, resulting in pain and sensory and motor disturbances. The treatment of PMS is varied and can include conservative approaches such as rest and physical therapy, invasive options such as anesthetic or corticosteroid injections, and even surgery in severe cases. Complementary therapies, such as acupuncture and osteopathy, may also be beneficial. A multidisciplinary approach and patient education are key to effective management and improvement in the quality of life of patients with SMP.

Keywords: Piriformis Syndrome, Diagnosis, Treatment.

INTRODUCTION

Piriformis syndrome (PMS) is a neuromuscular condition where the piriformis muscle compresses the sciatic nerve, causing pain and sensory and motor disorders, such as sciatica and pain in the gluteal and posterior thigh region in patients (Damasceno., 2022; Lo, Robinson., 2024). The treatment of PMS is extremely diverse, including conservative, invasive, and complementary approaches, which must be personalized for each patient (Freitas *et al*., 2023; Aragão *et al*., 2022).

The main objective of the present study is to investigate and present the various treatment modalities available for PMS, ranging from conservative approaches to interventional procedures, in order to provide a comprehensive and up-to-date view of the therapeutic strategies related to this clinical condition.

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MATERIALS AND METHODS

For this study, a detailed literature review was adopted in July 2024. Databases such as *SciELO, PubMed, Google Scholar* and Virtual Health Library were consulted. The search used keywords in Portuguese, English and Spanish, including "piriformis syndrome", "diagnosis" and "treatment".

The selection included articles from the last 2 years, focusing on updated studies, systematic reviews and meta-analyses on SMP. The inclusion criteria considered studies on clinical symptoms, diagnostic imaging and clinical methods, and conservative and invasive therapeutic options. 10 articles were chosen based on relevance, methodological quality, and contribution to the understanding of SMP.

RESULTS

Initial management of SMP usually involves conservative approaches such as rest, ice, nonsteroidal anti-inflammatory drugs (NSAIDs), and physical therapy (Tezcan, Erol, Gezer., 2024). Physical therapy, with techniques such as neural mobilization and specific stretching of the piriformis, has been shown to be effective in reducing pain and improving physical function (Damasceno., 2022).

In cases where conservative treatment is not sufficient, image-guided injections, including local anesthetics, corticosteroids, or botulinum toxin type A, are considered. Botulinum toxin type A has been shown to be effective in reducing chronic muscle pain (Lo, Robinson., 2024). For refractory cases, sciatic nerve decompression surgery can be evaluated, with endoscopic techniques being preferred for their lower invasiveness (Guner, Derya, Ozcete., 2023; Siraj, Dadgal., 2022; Sharma *et al*., 2021).

Complementary therapies, such as acupuncture and osteopathy, have also shown benefits as adjunctive options in the treatment of PMS (Reyes *et al*., 2022; Freitas *et al*., 2023). Self-care and stress management strategies play an important role in the management of PMS, improving treatment response and quality of life for patients (Nakanishi *et al*., 2024; Aragão *et al*., 2022).

FINAL CONSIDERATIONS

The management of SMP involves a variety of therapeutic approaches tailored to the individual needs of each patient. Ongoing research is crucial to enhance treatment options and improve patients' quality of life. A multidisciplinary approach, integrating physiotherapists, pain specialists, surgeons and mental health professionals, is key to an effective therapeutic plan. Patient empowerment through education about the condition and their treatment options plays an essential role in the effective management of SMP.

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