

Effective Treatment of Axillary Web Syndrome After Breast Cancer: a Multiprofessional Approach

Tratamento Eficaz da Síndrome da Rede Axilar Após Câncer de Mama: Uma Abordagem Multiprofissional
Tratamiento Eficaz del Síndrome de la Red Axilar Después del Cáncer de Mama: Un Enfoque Multiprofesional

RESUMO

Objetivo: Investigar os desafios e perspectivas para a eficácia dos tratamentos da síndrome da rede axilar, visando otimizar os resultados terapêuticos com uma abordagem multiprofissional. **Método:** Realizou-se uma revisão integrativa da literatura nas bases de dados PubMed, LILACS, SciELO e Latindex, utilizando os descritores "Axillary", "Web" e "Syndrome". Foram incluídos 45 artigos publicados entre 2014 e 2024, nos idiomas inglês, português ou espanhol, que abordassem os tratamentos disponíveis para a síndrome. **Resultado:** A análise dos estudos revelou que a fisioterapia é o tratamento mais eficaz, com taxas de melhora de até 92%. A abordagem multiprofissional mostrou-se fundamental devido ao impacto psicossocial da síndrome, que afeta a qualidade de vida e pode levar a quadros de ansiedade e depressão. **Conclusão:** O tratamento eficaz da síndrome depende de uma abordagem multiprofissional integrada. A fisioterapia é a principal modalidade terapêutica, mas o suporte psicológico é essencial para a recuperação completa do paciente. **DESCRIPTORIOS:** Equipe Interdisciplinar de Saúde; Neoplasias da Mama; Câncer de mama; Mastectomia; Saúde da mulher.

ABSTRACT:

Objective: To investigate the challenges and perspectives for the effectiveness of treatments for axillary web syndrome, aiming to optimize therapeutic results with a multiprofessional approach. **Method:** An integrative literature review was conducted in the PubMed, LILACS, SciELO, and Latindex databases, using the descriptors "Axillary," "Web," and "Syndrome." Forty-five articles published between 2014 and 2024 in English, Portuguese, or Spanish that addressed available treatments for the syndrome were included. **Result:** The analysis of the studies revealed that physiotherapy is the most effective treatment, with improvement rates of up to 92%. The multiprofessional approach proved to be fundamental due to the psychosocial impact of the syndrome, which affects quality of life and can lead to anxiety and depression. **Conclusion:** The effective treatment of the syndrome depends on an integrated multiprofessional approach. Physiotherapy is the main therapeutic modality, but psychological support is essential for the patient's complete recovery. **DESCRIPTORS:** Interdisciplinary Health Team; Breast Neoplasms; Breast Cancer; Mastectomy; Women's Health.

RESUMEN

Objetivo: Investigar los desafíos y perspectivas para la eficacia de los tratamientos del síndrome de la red axilar, con el fin de optimizar los resultados terapéuticos con un enfoque multiprofesional. **Método:** Se realizó una revisión integradora de la literatura en las bases de datos PubMed, LILACS, SciELO y Latindex, utilizando los descriptores "Axillary", "Web" y "Syndrome". Se incluyeron 45 artículos publicados entre 2014 y 2024, en los idiomas inglés, portugués o español, que abordaran los tratamientos disponibles para el síndrome. **Resultado:** El análisis de los estudios reveló que la fisioterapia es el tratamiento más eficaz, con tasas de mejora de hasta el 92%. El enfoque multiprofesional demostró ser fundamental debido al impacto psicossocial del síndrome, que afecta la calidad de vida y puede llevar a cuadros de ansiedad y depresión. **Conclusión:** El tratamiento eficaz del síndrome depende de un enfoque multiprofesional integrado. La fisioterapia es la principal modalidad terapéutica, pero el apoyo psicológico es esencial para la recuperación completa del paciente. **DESCRIPTORIOS:** Equipo Interdisciplinario de Salud; Neoplasias de la Mama; Cáncer de Mama; Mastectomía; Salud de la Mujer.

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INTRODUCTION

Axillary Web Syndrome (AWS) is a complication that can arise following breast cancer surgeries, such as lymph node removal and sentinel lymph node biopsy. It manifests as the appearance of fibrous cords under the skin in the armpit region, which can cause pain and hinder arm movement. As a result, many patients face limitations in their daily activities, affecting their quality of life and well-being.

Although breast cancer is more common in women, it also occurs in men. Male breast cancer accounts for 1% of all carcinomas in men. Male breast tissue consists of underdeveloped cells and tissues, without the presence of lobules⁹. In SRA, men may present the same symptoms as women; however, in men, the condition presents as an extremely advanced neoplasm by the time it is diagnosed by a healthcare professional. The mortality rate is higher among men, precisely due to a lack of awareness among the general public and some healthcare professionals¹⁵.

Studies indicate that the prevalence of SRA ranges from 6% to 85%^{2,8} in patients who have undergone axillary dissection, depending on the diagnostic method used. Furthermore, factors such as the number of lymph nodes removed, the patient's age, and the type of surgical procedure performed may affect the progression of the syndrome⁵. Patients who have undergone mastectomy with lymph-

adenectomy are at a higher risk of developing the condition than those who have only undergone sentinel lymph node biopsy³.

Although the exact cause of Axillary Network Syndrome is not yet known, it is believed to be related to an inflammatory process and changes in the lymphatic and vascular systems of the region¹. In many cases, physical therapy helps alleviate symptoms and restore mobility. Studies suggest that up to 92% of patients experience significant improvement with physical therapy interventions⁴, such as myofascial release and range-of-motion exercises. However, in more complicated cases, surgical procedures may be necessary. Although the diagnosis is primarily clinical, imaging tests, such as soft tissue ultrasound, can help confirm the condition, especially in cases of uncertainty.

Axillary Web Syndrome, in addition to causing physical limitations, can have a significant psychological impact on those affected. Research indicates that many patients experience a decline in self-esteem and increased anxiety due to chronic pain and limited movement¹³. The challenge of performing daily tasks. Mental health can further affect AHS, as it involves neuropsychological factors related to recovery and the willpower to overcome the condition⁶. This underscores the importance of ongoing research into new therapeutic methods and preventive strategies. With advances in technology, significant improvements in patient outcomes are possible¹².

The main objective of this article was to investigate the challenges and prospects for the effectiveness and continuity of the various treatments available for axillary plexus syndrome, with the aim of identifying strategies that can optimize therapeutic outcomes and provide a more comprehensive and sustainable multidisciplinary approach in the long term.

METHOD

This study consists of an integrative review of the various treatments currently available for axillary plexus syndrome (APS), covering multidisciplinary therapeutic approaches. For this project, a review was conducted of articles indexed in the main electronic databases, namely PubMed, LILACS (Latin American Literature in Health Sciences), SciELO (Scientific Electronic Library Online), and Latinex (Regional Online Information System for Scientific Journals of Latin America, the Caribbean, Spain, and Portugal).

The study was based on a search for articles selected by title, abstract, or subject, using the Boolean operator "AND." Specific search descriptors related to the topic were defined, encompassing the keywords "Axillary" AND "Web" AND "Syndrome." The inclusion criteria were texts published between 2014 and 2024, written in English, Portuguese, or Spanish, totaling 101 articles. Finally, regarding the exclusion criteria, articles that were paywalled or fell outside the scope of the project during the review of the abstract and objectives were excluded from the review, resulting in 45 articles read in full and reviewed.

Furthermore, there was no need to submit the described project to the Research Ethics Committee, as it is a study using secondary data in the public domain, in accordance with

the guidelines of Resolutions No. 510/2016 and No. 674/2022 of the National Health Council (CNS).

RESULTS

Among the 45 articles read and reviewed, 9 were excluded: 2 articles did not focus on the treatment of SRA; 3 did not address SRA following breast cancer; 4 did not encompass SRA, deviating from the proposed topic.

The included studies comprised 13 reviews (36.1%, of which 38.4% were literature reviews, 38.4% were systematic reviews, 15.38% were narrative reviews, and 7.6% were retrospective reviews), 10 clinical trials (27.7%), 11 retrospective observational studies (30.5%), and 2 case reports (5.5%).

The selected articles were published between 2015 and 2024, with 4 from 2015 (11.1%), 1 from 2016 (2.7%), 1 from 2017 (2.7%), 5 from 2018 (13.8%), 3 from 2020 (8.3%), 8 from 2021 (22.2%), 3 from 2022 (8.3%), 9 from 2023 (25%), and 2 from 2024 (5.5%). Consequently, the countries in which

The studies were conducted as follows: 5 in Brazil (13.8%), 12 in Europe (33.3%, including 1 in Germany, 1 in Spain, 3 in Italy, 3 in Switzerland, and 4 in the United Kingdom), 9 in Asia (25%, including 2 in South Korea, 1 in India, 1 in Japan, 1 in Israel, 1 in the United Arab Emirates, 2 in China, and 1 in Turkey), 6 in the U.S. (16.6%), 1 in Canada (2.7%), 1 in Ecuador (2.7%), 1 in New Zealand (2.7%), and 1 resulting from an international collaboration (2.7%).

Of the 36 articles, 28 (77.7%) focus on post-breast-cancer SRA, while the remaining 8 (22.2%) address SRA in general. Consequently, 14 studies (38.8%) delve into the etiology and risk factors for the development of the syndrome, with 8 (57.1%) linking the development of ARS to post-breast-

cancer mastectomy, 4 (28.5%) identifying other causes, such as axillary lymph node injury

—which can also occur with mastectomy—and 2 (14.2%) consider that there are insufficient studies to reach a conclusion. Meanwhile, 22 (61.1%) investigate the types and efficacy of treatments and forms of rehabilitation in patients with ALS: 14 (63.6%) identify physical therapy as an effective treatment for the syndrome, 7 (31.8%) highlight other treatments that may be effective, such as lymphatic drainage and psychological support, and finally, 1 (4.5%) identifies the need for further studies.

DISCUSSION

Axillary Network Syndrome (ANS) remains one of the most complex and challenging postoperative complications in breast cancer, potentially arising after surgeries such as lymph node removal or sentinel lymph node biopsy¹⁴. The condition can cause pain and hinder arm movement, requiring a careful and individualized approach. The variation in the prevalence of AS is remarkably wide, ranging from 6% to 85% across different studies^{2,8}.

This high heterogeneity is influenced by the diversity of the pathology and suggests significant methodological differences in case evaluation, such as the lack of standardized diagnostic criteria, variations in postoperative follow-up protocols, and the availability of specialized services. The diagnosis is based on clinical evaluation, with the identification of characteristic fibrous cords and functional limitation, although imaging studies, such as soft tissue ultrasound, may offer valuable additional information for confirming the condition. Identified risk factors include axillary lymphadenectomy, mastectomy, younger age, hypertension, and che-

motherapy, with sentinel lymph node biopsy serving as a protective factor when compared to axillary dissection¹⁰.

Regarding therapeutic management, specialized physical therapy consistently emerges as the first-line modality. Analysis of the studies reveals that physical therapy interventions, such as stretching exercises, tissue mobilization, myofascial release, and manual therapy, yield positive results, with improvement rates reaching up to 92% of cases⁴. Efficacy is particularly notable when intervention is initiated early, although the clinical response varies considerably among patients^{11, 14}.

In addition to physical therapy, other approaches such as manual lymphatic drainage and psychological support may also be effective. Beyond physical limitations, SRA has a strong psychosocial impact. Chronic pain and limited mobility impose persistent difficulties in activities of daily living, such as styling hair and getting dressed, which impairs quality of life and can lead to anxiety and depression⁹.

Psychological support, therefore, is considered essential for the patient's full recovery. This aspect underscores that an integrated multidisciplinary approach—involving physical therapists, nurses, psychologists, and physicians—is the cornerstone of effective management of SRA, addressing not only physical aspects but also emotional and social ones. Functional improvement should be understood as the patient's ability to resume daily activities with autonomy and comfort¹⁴.

The complexity of the syndrome requires continued investment in clinical research, given the scarcity of randomized controlled trials (RCTs) and the heterogeneity of therapeutic protocols. Future recommendations include the urgent need for more standardized diagnostic criteria to ensure

greater uniformity, the development of evidence-based therapeutic protocols, the training of multidisciplinary teams for early recognition, and investment in translational research to better understand the underlying pathophysiological mechanisms.

FINAL CONSIDERATIONS

Effective treatment of Axillary Net-

work Syndrome (ANS) requires an integrated multidisciplinary approach. Physical therapy is the primary therapeutic modality, demonstrating high efficacy (with improvement rates of up to 92%) in reducing pain and improving range of motion. However, the psychosocial impact of AHS, which frequently leads to anxiety and depression, makes psychological support essential for complete recovery

and improved quality of life.

Critical challenges remain, such as the wide variability in prevalence (6% to 85%) and the scarcity of randomized controlled trials, highlighting the urgent need for standardized diagnostic criteria and continued investment in research to optimize prevention and treatment strategies.

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