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SHORT COMMUNICATION

Challenges and advances in the treatment of radial palsy in Argentina during 2024

Desafíos y avances en el tratamiento de la parálisis radial en Argentina durante 2024

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ABSTRACT

In 2024, the management of radial nerve injuries in Argentina was profoundly influenced by structural, economic and health factors. The health system faced difficulties arising from the post-pandemic period, a prolonged economic crisis and unequal access to specialized resources. The high incidence of upper limb injuries was related to the increase in road and work accidents, as well as urban violence. These injuries mainly affected young males from vulnerable sectors.
Diagnosis depended, in many cases, on clinical experience, given the limited availability of studies such as electromyography. This reality caused diagnostic delays that reduced the chances of functional recovery. In terms of treatment, tendon transfers continued to be the most widely used technique in public hospitals due to their simplicity and low cost, while nerve transfers began to be implemented in more complex centers. Post-surgical rehabilitation showed marked inequalities between regions. The shortage of specialized physiotherapists, coupled with the lack of continuity in treatments, negatively affected the results. In addition, many patients faced barriers to accessing orthotics, rehabilitation or postoperative check-ups, resorting to NGOs or solidarity campaigns.
From the academic sphere, research into surgical treatments was promoted and 3D printing was explored as an alternative for personalized splints. Although significant progress was made, gaps in infrastructure and resources limited its impact.

Keywords: Radial Palsy; Tendon Transfer; Rehabilitation; Health System; Inequality.

RESUMEN

En el año 2024, el abordaje de las lesiones del nervio radial en Argentina estuvo profundamente influenciado por factores estructurales, económicos y sanitarios. El sistema de salud enfrentó dificultades derivadas de la pospandemia, una crisis económica prolongada y un acceso desigual a recursos especializados. La alta incidencia de traumatismos en miembros superiores se relacionó con el aumento de accidentes viales y laborales, así como con la violencia urbana. Estas lesiones afectaron mayoritariamente a jóvenes varones de sectores vulnerables. El diagnóstico dependió, en muchos casos, de la experiencia clínica, dada la limitada disponibilidad de estudios como la electromiografía. Esta realidad provocó retrasos diagnósticos que redujeron las posibilidades de recuperación funcional. En cuanto al tratamiento, las transferencias tendinosas siguieron siendo la técnica más utilizada en hospitales públicos por su sencillez y bajo costo, mientras que las transferencias nerviosas comenzaron a implementarse en centros de mayor complejidad. La rehabilitación postquirúrgica mostró marcadas desigualdades entre regiones. La escasez de kinesiólogos especializados, sumada a la falta de continuidad en los tratamientos, condicionó negativamente los resultados. Además, muchos pacientes enfrentaron barreras para acceder a ortesis, rehabilitación o controles postoperatorios,

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recurriendo a ONG's o campañas solidarias. Desde el ámbito académico, se promovieron investigaciones sobre tratamientos quirúrgicos y se exploró la impresión 3D como alternativa para férulas personalizadas. Aunque se evidenciaron avances importantes, las brechas en infraestructura y recursos limitaron su impacto.

Palabras clave: Parálisis Radial; Transferencia Tendinosa; Rehabilitación; Sistema de Salud; Desigualdad.

BACKGROUND

In the Argentine context of 2024, the approach to radial nerve injuries was impacted by a series of health, economic, and structural factors that directly and indirectly influenced both the incidence of these pathologies and their treatment.[1] The Argentine healthcare system, strained by the combination of the post-pandemic period, a persistent economic crisis, and fragmented access to specialized services, faced severe difficulties in providing timely and equitable care to patients with complex traumatic injuries such as those of the radial nerve.[2,3]

In particular, the increase in road and work-related accidents was one of the leading causes of humerus fractures and associated neuromuscular injuries.[4] The lack of adequate controls on construction sites, growing labor informality, and the absence of strict safety protocols contributed to a higher frequency of traumatic injuries to the upper limbs. In addition, the increase in urban violence, including stab and gunshot wounds in specific vulnerable socioeconomic contexts, also increased the incidence of nerve damage, especially in young adult males.[5]

The diagnosis of these injuries in Argentina continued to depend, in many cases, on clinical experience rather than systematic access to complementary studies such as electromyography or magnetic resonance imaging due to the uneven distribution of these resources between provinces and the public and private sectors.[7,8] In some situations, this diagnostic delay or lack of confirmation led to late interventions, thus reducing the chances of functional recovery.[9]

Post-surgical rehabilitation, which is essential in cases of tendon or nerve transfers, showed significant disparities at the national level. Although advanced rehabilitation units exist in large urban centers such as Buenos Aires, Córdoba, and Rosario, many provinces in the north and south of the country lack sufficient infrastructure.[10] The limited availability of physical therapists trained in neurorehabilitation and the discontinuity of treatment for economic reasons limited functional outcomes even in patients who underwent successful surgery.[11]

From a surgical point of view, although tendon transfers remained the most frequent option in public hospitals due to their relative technical simplicity and availability, nerve transfers began to gain ground in more complex centers and universities. However, these techniques were still limited by the lack of specific materials, the need for advanced training, and long waiting lists. Nerve grafts were mainly limited to the private sector or situations where donation and inter-institutional cooperation were achieved.[12]

The challenge of providing comprehensive care also included psychosocial aspects: many patients with radial paralysis, especially those with a "pendulum hand" and without access to effective rehabilitation, faced problems of reintegration into the workforce and social stigmatization. In vulnerable sectors, these physical limitations led to the loss of informal jobs, difficulties in performing daily tasks, and, consequently, a negative emotional impact, often not addressed by the health system.[13]

In 2024, the Ministry of Health published new clinical guidelines for the management of traumatic peripheral nerve injuries. These guidelines focused on risk stratification, early referral to referral centers, and the creation of interhospital circuits to avoid the loss of critical surgical time. These health policies sought to reduce the gap between diagnosis, surgery, and rehabilitation, although their effective implementation varied widely by province.

Training sessions were also promoted in public hospitals and national universities to update professionals on advanced surgical techniques and establish standard criteria for choosing between tendon transfers, grafts, or nerve transfers. At the same time, some provinces incorporated surgical simulation programs to train residents in traumatology and reconstructive surgery through agreements with universities.[14]

Regarding access to treatment, social security and the public health system faced increasing difficulties in covering orthotic devices, rehabilitation sessions, and post-operative check-ups.[15] Patients often had to turn to NGOs, municipal aid programs, or even solidarity campaigns to finance their treatment, especially those requiring interprovincial referrals or imported supplies.[16]

From an academic perspective, some national universities, such as the UBA, UNC, and UNR, conducted observational and retrospective studies that evaluated the functional evolution of patients with radial nerve palsy treated with different surgical techniques.[17] This work laid the groundwork for future multicenter protocols to develop national consensus adapted to the local context.

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At the clinical research level, proposals were developed for using 3D printing to design specific splints for cases of "pendulum hand," which, in some instances, improved adaptation and reduced costs, especially in university hospitals. This technological innovation began to attract interest as an accessible tool to accompany the rehabilitation process and promote the patient's functional independence during reinnervation.[18]

In summary, the approach to radial nerve injuries in Argentina during 2024 showed both progress and challenges. On the one hand, anatomical and clinical knowledge about this condition was strengthened, policies for early detection were promoted, and attempts were made to expand access to modern techniques such as nerve transfers. On the other hand, structural, economic, and geographical barriers continued to limit equitable access to treatment and rehabilitation. The lack of therapeutic consensus, coupled with the unequal distribution of resources, impacted the long-term functional outcomes of many patients.

The future of radial nerve palsy treatment in Argentina will depend on inclusive health policies, investment in surgical and rehabilitation training, inter-institutional collaboration, and the development of technological solutions adapted to contexts with limited resources. Only then will it be possible to offer each patient a real chance to regain the functionality of their upper limb and, with it, their quality of life?

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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