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EDITORIAL

Integrating perspectives in contemporary neurology: from clinical observation to technological innovation

Perspectivas integradoras en la neurología contemporánea: de la observación clínica a la innovación tecnológica

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Neurology continues to evolve at an accelerated pace, shaped not only by advances in diagnostic technologies but also by a growing emphasis on patient-centered outcomes, interdisciplinary collaboration, and translational research. Contemporary neurological practice increasingly requires integrating traditional clinical observation with emerging biomarkers, rehabilitation strategies, neuropsychiatric understanding, and novel imaging modalities. The contributions gathered in this issue of Revista Mexicana de Neurociencia reflect this multidimensional evolution, illustrating how diverse lines of inquiry converge toward a more comprehensive understanding of neurological disease.

The review on quality of life in Guillain-Barré syndrome underscores how residual symptoms, fatigue, and psychosocial factors may persist despite apparent neurological recovery, reminding clinicians that functional independence does not necessarily equate to full patient well-being. Similarly, the clinical description of diabetic striatopathy reinforces the need to recognize treatable metabolic causes of movement disorders, where timely diagnosis can substantially modify prognosis. Complementing these perspectives, the study examining hematological parameters as predictors of survival in Creutzfeldt–Jakob disease explores accessible biomarkers that may inform disease trajectory in conditions where diagnostic and prognostic tools are often limited.

Rehabilitation and interdisciplinary management are also present as central themes in the current issue of the journal. The systematic review and meta-analysis evaluating immersive virtual reality therapy for Parkinson's disease exemplifies how digital technologies are increasingly incorporated into neurorehabilitation strategies. Although current evidence remains preliminary, such approaches illustrate the expanding interface between neuroscience, engineering, and clinical care, with potential implications for improving motor function, patient engagement, and long-term disease management. In parallel, the review on catatonia serves as a reminder that the boundary between neurological and psychiatric diagnosis is blurry. Greater awareness of this underrecognized neuropsychiatric syndrome can prevent diagnostic delays and improve therapeutic outcomes, emphasizing the need for clinicians to adopt integrative perspectives when evaluating complex motor and behavioral presentations.

The review of optical neuroimaging modalities for human brain mapping further represents technological innovation. Non-invasive optical techniques offer promising avenues for real-time, portable, and cost-effective

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monitoring of cerebral physiology. While still evolving, these approaches may expand access to functional neuroimaging, particularly in settings where traditional modalities remain limited. Such developments highlight how technological progress can reshape both research and clinical practice, potentially democratizing advanced neurological assessment.

Taken together, the works presented in this issue illustrate the breadth of contemporary neurology: from rare neurodegenerative diseases to metabolic movement disorders, from neuropsychiatric syndromes to rehabilitation innovation, and from clinical biomarkers to emerging neuroimaging technologies. This diversity reflects the complexity of neurological sciences, where meaningful progress often arises from interdisciplinary cooperation.

As neurological research and practice continue to advance, maintaining this integrative perspective will be essential. Improving patient outcomes requires not only diagnostic precision but also attention to quality of life, functional recovery, technological accessibility, and interdisciplinary collaboration. Therefore, Revista Mexicana de Neurociencia plays an important role in fostering this dialogue, providing a platform where clinical experience, scientific innovation, and regional perspectives converge.

The continued development of neurology in Mexico and Latin America will depend on strengthening research networks, embracing emerging technologies, and sustaining a patient-centered approach. The contributions in this issue offer valuable insights in that direction and underscore the vitality of neurological research in the region.