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EDITORIAL

NEUROGASTROENTEROLOGY - A NEW FIELD?

Over the past decades, Gastroenterology has undergone a profound transformation, moving beyond a purely organ-centered approach toward an integrated, multidisciplinary understanding of digestive diseases. At the heart of this evolution lies Neurogastroenterology, a field dedicated to the complex interactions between the gastrointestinal tract, the enteric nervous system, and the central nervous system. Neurogastroenterology has emerged as a distinct and essential subspecialty, dedicated to the study and management of disorders arising from dysfunctions of the gut-brain axis. In this context, the establishment and development of a Neurogastroenterology unit represents not only a scientific advancement, but also a clinical necessity for contemporary medicine.

Neurogastroenterology addresses a wide spectrum of conditions that are highly prevalent, clinically challenging, and often associated with significant patient suffering. In general population, disorders such as irritable bowel syndrome (4.1%), functional dyspepsia (7%), functional esophageal disorders (functional heartburn ~ 2-3%, globus sensation ~ 3-4%, functional chest pain ~ 1-2%), functional constipation (~11-14%), and fecal incontinence (1.5-2.5%) are now collectively classified as disorders of gut-brain interaction (1). These conditions affect millions of individuals worldwide, impose a considerable socioeconomic burden, and frequently lead to repeated medical consultations, extensive investigations, and therapeutic frustration for both patients and clinicians. Despite their prevalence, such disorders have long been marginalized, often perceived as diagnoses of exclusion or as conditions lacking a solid biological basis. The development of a dedicated Neurogastroenterology unit plays a crucial role in overcoming these misconceptions and in providing structured, evidence-based care.

A defining feature of Neurogastroenterology is its focus on the complex pathophysiological mechanisms underlying gastrointestinal symptoms. Research over recent decades has demonstrated that altered gastrointestinal motility, visceral hypersensitivity, dysregulation of central pain processing, autonomic nervous system imbalance, immune activation, and changes in the intestinal microbiota all contribute to symptom generation. These biological factors interact dynamically with psychological and social determinants, including stress, anxiety, depression, early life adversity, and coping mechanisms. A Neurogastroenterology unit provides an integrated framework in which these multifactorial mechanisms can be systematically evaluated and therapeutically targeted (1).

From a diagnostic standpoint, the Neurogastroenterology unit offers access to specialized functional investigations that are essential for accurate diagnosis and patient stratification. High-resolution esophageal and anorectal manometry, impedance-pH monitoring, gastric emptying studies, colonic transit assessments, breath tests for carbohydrate malabsorption and small intestinal bacterial overgrowth, as well as tests of anorectal sensory and motor

function, enable clinicians to move beyond symptom-based criteria toward mechanism-oriented diagnoses (2). This approach facilitates more precise phenotyping of patients, allowing clinicians to distinguish between motility disorders, sensory abnormalities, and central dysregulation. Such diagnostic precision is fundamental to the principles of personalized medicine and is associated with improved therapeutic outcomes (3).

Equally important is the therapeutic philosophy promoted within a Neurogastroenterology unit. Management strategies are inherently multimodal and individualized, reflecting the heterogeneity of underlying mechanisms.

Pharmacological treatments may include agents that modulate gastrointestinal motility, secretion, and visceral sensitivity, as well as centrally acting neuromodulators targeting pain processing and affective components of symptoms. Dietary interventions, such as low fermentable oligo-, di-, monosaccharides and polyols (FODMAP) diets or targeted nutritional modifications, play an increasingly important role. Psychological therapies, including cognitive behavioral therapy, gut-directed hypnotherapy, and stress management techniques, have demonstrated efficacy in selected patient populations. The coordinated integration of these approaches within a dedicated clinic fosters a holistic and patient-centered model of care (4).

Interdisciplinary collaboration represents another cornerstone of the Neurogastroenterology unit. Close cooperation between gastroenterologists, neurologists, psychiatrists, psychologists, dietitians, physiotherapists, and specialized nurses enhances both diagnostic accuracy and therapeutic effectiveness. Such collaboration is particularly valuable in patients with severe, refractory, or chronic symptoms, who often present with overlapping gastrointestinal and extraintestinal complaints. By addressing both somatic and psychosocial dimensions of disease, the Neurogastroenterology department contributes to improved quality of life, reduced symptom burden, and greater patient satisfaction.

Beyond its clinical impact, the Neurogastroenterology unit fulfils a vital role in medical education. Functional gastrointestinal disorders are frequently underrepresented in undergraduate and postgraduate curricula, despite their high prevalence in everyday practice. Exposure to a structured Neurogastroenterology service allows medical students and residents to develop a nuanced understanding of gut-brain interactions, diagnostic reasoning in functional disorders, and the principles of biopsychosocial medicine. This educational experience helps counteract therapeutic nihilism and fosters empathy toward patients whose symptoms may be invisible yet profoundly disabling (4). For practicing clinicians, Neurogastroenterology clinics serve as centers of excellence that promote continuing professional development and dissemination of updated clinical guidelines.

The academic value of a Neurogastroenterology clinic is further reflected in its contribution to clinical and translational research. The gut-brain axis represents one of the most dynamic areas of contemporary biomedical research, with ongoing investigations into neuroimmune signaling, microbiota-brain communication, and novel therapeutic targets. Dedicated clinics provide well-characterized patient populations, standardized diagnostic protocols, and opportunities for longitudinal follow-up, all of which are essential for high-quality research. Participation in multicenter studies and international collaborations enhances scientific visibility and positions academic institutions at the forefront of innovation in digestive health.

Within the context of academic medicine in Iași, a city with a long-standing tradition of medical scholarship and clinical excellence, the development of a Neurogastroenterology clinic carries particular significance. It aligns with the mission of tertiary care centers to address complex and unmet clinical needs while integrating education and research. Moreover, it responds to the growing demand for specialized care among patients with functional gastrointestinal disorders, who often experience delays in diagnosis and fragmented care pathways. Establishing a dedicated clinic not only improves access to expertise but also reinforces the role of the academic hospital as a reference center for the region. Academician Professor Doctor Carol Stanciu had a pivotal role in introducing functional gastrointestinal investigations in Iasi. Through his vision and dedication, modern diagnostics techniques such as motility and functional testing were improving both clinical practice and academic training (5).

In conclusion, the importance of a Neurogastroenterology unit in contemporary medical practice cannot be overstated. By providing specialized diagnostic tools, individualized and multimodal therapies, interdisciplinary collaboration, and opportunities for education and research, such clinics address a major gap in the care of patients with disorders of gut-brain interaction. Their role extends beyond symptom management, contributing to a deeper understanding of disease mechanisms and to the advancement of integrative medicine.

In academic centers such as Iași, the consolidation of Neurogastroenterology services represents both a continuation of medical tradition and a forward-looking investment in the future of patient-centered care.

***V. L. Drug**, M.D., Ph.D.*
Professor of Gastroenterology
***Oana-Cristina Petrea**, M.D., Ph.D.*
Assistant Professor
***Oana-Bogdana Barboi**, M.D., Ph.D.*
Assistant Professor
"Grigore T. Popa" University of Medicine and Pharmacy Iasi

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