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Gastrointestinal neuromuscular disease: methodological and ontological issues in histopathological analysis

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The term gastrointestinal neuromuscular disease comprises a heterogeneous group of chronic conditions associated with impaired bowel motility. Gastrointestinal motor dysfunctions, differening for etiopathogenic mechanisms, pathologic lesions, and region of gut involvement (e.g., irritable bowel syndrome, slow transit constipation, inflammatory bowel disease, diverticular disease), represent a relevant matter for public health: in fact, they are very common, can be disabling, and induce major social and economic burdens.

These motor disturbances are presumed or proven to arise as a result of dysfunctional enteric neuromuscular apparatus set up by myenteric ganglionic cells, interstitial cells of Cajal and smooth muscle cells of the muscularis propria.

Despite the presence of intestinal dysmotility in the clinical phenotype of these patients, scarce attention has been paid to the morphological arrangements of the enteric neuromuscular apparatus. Furthermore, standards for histopathological reports remain relatively neglected resulting in significant differences in applied methodologies which confound the reliable delineation of normality and, as a consequence, the specificity of particular pathological changes for disease.

Thus, in order to overcome the lack or heterogeneity of current data, to get normative data and delineation of abnormality, careful morphological examinations and development of standardized procedures are particularly required in the field of gastrointestinal neuromuscular pathology, as recently suggested.

Keywords: gastrointestinal neuromuscular pathology, bowel dysmotility, histological techniques, normative data