

Clinical nutrition, skeletal muscle and liver disease: linking the dots for good management

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This is not new. The famous phrase “Let your food be your medicine and your medicine be your food” is attributed to Hippocrates of Kos in ancient Greece (1). In the mid-twentieth century, based on their clinical experience, two surgeons, Charles Child and Jeremiah Turcotte, took into account the nutritional status (later replaced by the INR to obtain an objective numerical value) to calculate the well-known score assessing the mortality risk of the cirrhotic patient (2).

The interest in nutrition has persisted over time and knowledge is evolving with the availability of scientific evidence. Nutritional status as a whole and good muscle health are considered essential. The skeletal muscle is indeed an endocrine and metabolically active organ as well as a reservoir of amino acids that are useful in dealing with acute and chronic events (3). However, there are still grey areas in the methods used to evaluate it and in the dialogue with the other organs, in particular in the context of hepatology (4). This is why we conceived this special issue of *Acta Gastro-Enterologica Belgica*, following the well-appreciated BASL course held in Mons in December 2022 on “nutrition and sarcopenia in liver disease”.

In the first review manuscript, Wilhelmus Kwanten (Antwerp University Hospital) offers practical advice for the management of patients with non-alcoholic/metabolic dysfunction-associated fatty liver disease (5). This makes sense for a disease that is mainly related to the metabolic context (6) and that is caused by dietary factors, which the author also describes (5). A dietary intervention therefore makes perfect sense (7), and the author provides real-life recommendations for daily practice (5). In the second manuscript, Anja Geerts (Ghent University Hospital) tackles a hot topic at the moment, namely the treatment of obesity and metabolic steatorsis by metabolic surgery, and discusses potential pitfalls, notably the appearance of alcohol use disorder after surgery (8).

The following three review manuscripts concern end-stage liver disease where the importance of the liver-muscle axis is well described at the pathophysiological level (9). The authors clearly show in practice what can be done to improve the management of patients or where

question marks remain. Marina Berenguer (Universitat de València) shows that nutritional assessment should also take place in the case of assessment before transjugular intrahepatic portosystemic shunt (TIPSS) and that further research is needed to test the effectiveness of this assessment and subsequent nutritional management, especially on the occurrence of hepatic encephalopathy after TIPSS placement (10). Diethard Monbaliu (KU Leuven) describes the close relationship between malnutrition and end-stage liver disease (11). He argues in favour of a standardised definition of sarcopenia and its treatment, particularly through physical exercise, taking into account the difficulties that can easily be encountered in cases of advanced disease and transplantation (11). Finally, Florent Artru (King's College Hospital, London) mentions the possible use of ultrasound or the liver frailty index (12). He stresses the importance of simple measures to combat sarcopenia, and calls for a combined approach of physical exercise and nutritional management with the aim of finally achieving significant results on post-transplant survival (12). What also emerges from these manuscripts is that, more than myopenia or sarcopenia, it is also myosteatorsis that reflects the severity of the liver disease and represents a potential target (10-13).

Highlighting the close links between our specialty and clinical nutrition, this issue of *Acta Gastro-Enterologica Belgica* also contains other articles on this subject. Pauline Van Ouytsel (Hôpital Erasme) assesses the occurrence of irritable bowel syndrome-like symptoms after bariatric surgery and its association with short-chain fermentable carbohydrates consumption (14). Jianfeng Luo (Zhejiang University) shows that urinary barium levels are higher in men with a high fatty liver index in the American population, suggesting a role for barium in the pathogenesis of fatty liver disease (15). Ellen Lommaert (University of Antwerp) argues that while a frequent cause of hyperferritinemia remains nutritional (alcohol

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and/or metabolic) liver steatosis, rarer causes should sometimes be investigated using a simple algorithm (16). Finally, Sandrine Bourseau (UCLouvain) discusses a possible hepatic complication of metabolic surgery, linked to malnutrition and sarcopenia and corrected by intensive nutritional management (17).

The other manuscripts deserve equal attention. We are delighted with the publication of the Belgian guidelines for pathology reporting of neuroendocrine neoplasms of the pancreaticobiliary and gastrointestinal tract (18), in line with our editorial commitment (19) and a few months after the publication of the Belgian guidelines for the management of *Helicobacter pylori* (20). We wish you a pleasant reading and a nice summer!

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