EDITORIAL

Evaluation of nutritional status and its association with the grade of activity of ulcerative colitis in Mexican patients[☆]

Evaluación del estado nutricional y su asociación con el grado de actividad en pacientes mexicanos con colitis ulcerosa crónica idiopática (CUCI)

Ulcerative colitis (UC) is a chronic and incurable disease that affects the mucosa and submucosa of the colon and rectum. Its etiology is unknown, but it is thought to be multifactorial, given that genetic, environmental, and immunologic factors are involved.[1] It is a well-known fact that chronic inflammation leads to chronic malnutrition due to protein catabolism, reduced protein synthesis, and fecal protein loss, as well as to an increase in bone resorption that produces the development of osteopenia and osteoporosis.[2,3]

The presence of hypoalbuminemia has been evaluated as a predictive factor of severe activity and a risk factor for colectomy in Mexican patients with UC.[4] Therefore, it is important to evaluate UC activity to induce or maintain remission and consequently improve the nutritional status of patients with UC. There are several scales for evaluating UC activity. The Truelove-Witts scale (TWS),[5] Mayo endoscopic scale,[6] and the Riley histologic index[7] are among the most well-known and widely used. They evaluate clinical, endoscopic, and histologic aspects, respectively, but have not been validated. Even though there are other scales, none of them comprehensively assesses disease activity. A novel integral disease index for evaluating UC activity has now been validated in the Mexican population and encompasses clinical, biochemical, endoscopic, and histopathologic aspects of the disease, enabling a complete and comprehensive evaluation.[8]

In the current issue of the *Revista de Gastroenterología de México*, De León-Rendón et al.[9] assessed the clinical utility of the Controlling Nutritional Status Score (CONUT) as a method of nutritional screening and severity prediction in Mexican patients with UC in their cross-sectional study on 60 patients seen at a tertiary referral hospital in Mexico City. The most relevant findings of the study were that the CONUT score detected the risk for malnutrition in 93.3% of the patients, the risk was moderate in 43.3% of them, and no risk for malnutrition was detected in only 6.3% of the patients with UC. The cases with higher CONUT scores had a greater frequency of moderate-to-severe activity on the TWS, whereas those with lower CONUT scores had mild activity or no disease activity on the TWS, with statistical significance (6.84 ± 2.86 vs. 4.1 ± 3.02; p = 0.009). Likewise, higher CONUT scores were significantly associated with C-reactive protein (CRP) levels $\geq$ 45 mg/dL, compared with patients in whom that marker was not elevated (7.37 ± 2.45 *vs.* 4.97 ± 3.19; p = 0.002), as well as with an erythrocyte sedimentation rate (ESR) $\geq$ 30 mm/h (6.78 ± 2.78 vs. 4.60 ± 3.26; p = 0.009). Importantly, the CONUT score was not significantly associated with more relevant outcomes, such as mucosal healing assessed by the Mayo endoscopic subscore (p = 0.35) or histologic remission evaluated with the Riley histologic index (p = 0.24), most likely due to the small sample size. The authors also determined the diagnostic utility of the CONUT score and found that a score $\geq$ 6 points was associated with higher TWS scores, with an area under the curve (AUC) of 0.75, p = 0.003, sensitivity (S) of 64%, specificity (Sp) of 88%, positive predictive value (PPV) of 83% and negative predictive value (NPV) of 50%. Regarding biochemical markers, the CONUT score was associated with an ESR > 30 mm/h (AUC = 0.68, p = 0.01, S of 63%, Sp of 75%, PPV of 83%, and NPV of 50%) and CRP > 45 mg/dl (AUC = 0.65, p = 0.04, S of 67%, Sp of 64%, PPV of 60%, and NPV of 70%).

The CONUT score is based on the quantification of albumin, total cholesterol, and the absolute lymphocyte count and has shown its clinical utility for determining

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malnutrion.[10] It has also been used as a severity and mortality predictor in heart disease and gastrointestinal tumors.[11–15]

In the article discussed herein, the clinical utility of the CONUT score was evaluated for the first time in Mexican patients with UC. The scale was shown to be a useful tool in detecting malnutrition but was only associated with clinical parameters determined by the TWS and biochemical parameters established through CRP levels and the ESR. Unfortunately, the CONUT score was not associated with endoscopic remission evaluated by the Mayo endoscopic sub-score or histologic remission by the Riley histologic index, which are current aims in the medical treatment of patients with UC. Thus, the CONUT score is adequate for the nutritional evaluation of patients with UC, but it is not a useful tool for predicting severity, from an endoscopic or histologic perspective. Another aspect to take into account is that the evaluation of patients with UC should comprehensively include clinical, biochemical, endoscopic, and histopathologic aspects, as is the case with the novel integral disease index for evaluating the grade of activity of ulcerative colitis, or Yamamoto-Furusho index, that is now validated in the Mexican population,[8] and whose aim is to optimize medical treatment and prevent adverse outcomes, such as surgery, hospitalization, and poor quality of life.

Finally, the evaluation of nutritional status through scales, such as the CONUT score, is important because it enables early nutritional intervention, which can prevent patients from progressing to a status of significant malnutrition. That is especially true for patients with clinically and biochemically determined moderate-to-severe activity, as demonstrated by the CONUT score.

Ethical considerations

No patients participated in the present study nor were patient data used, therefore no statements of informed consent were required. Likewise, given that there was no intervention, maneuver, or data management, the study is considered low-risk and no review or approval by the local ethics committee was needed. Even so, the study meets the current regulations regarding research, personal and identification data confidentiality, and participant anonymity (all healthcare workers that participated voluntarily). The present article contains no personal information that could identify the participants.

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Conflict of interest

Dr. Jesús Kazuo Yamamoto Furusho is a member of the advisory board, an opinion leader, and speaker for Abbvie Laboratories of Mexico, Abbvie International, Takeda International, Takeda Mexico, Pfizer (international and regional), and Janssen Cilag (international, regional, and national). He is an opinion leader and speaker for Alfasigma, Celltrion, Ferring, and Farmasa Schwabe, and has been a speaker for Almirall, Astra Zeneca, Danone, and Novartis. He has been a research advisor for UCB Mexico and has received funding for research studies from the Shire, Bristol Myers Squibb, Pfizer, Takeda, and Celgene laboratories.

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