Histological scores are poor predictors of short-term response to therapy in acute severe ulcerative colitis

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Background: Although all patients with acute severe ulcerative colitis (ASUC) undergo sigmoidoscopy and biopsy, the predictive value of various histological scores is unclear. We studied the association between histological scoring and the need for second-line rescue therapy and whether these scores predict the response to therapy in ASUC.

Methods: All consecutive patients of ASUC (as per Truelove and Witts criteria) admitted from 1st April 2019 to 31st January 2021 in North India were included. All patients, who underwent sigmoidoscopy and biopsy, underwent histological assessment by two independent pathologists [Simplified Geboes score (SGS), Robarts Histopathology Index (RHI) and Nancy histological index (NHI)]. The primary outcomes were to study the association between histological scores and the need for second-line rescue therapy in index admission and the accuracy of each score in predicting the need for second-line treatment or colectomy within 28 days of admission. The secondary outcomes included an association between histological scores and endoscopic Mayo scores with response to corticosteroids on day three as per Oxford criteria.

Results: Eighty-two cases of ASUC (Mean age: 36 years, males 47.5%) were analyzed. Sixteen patients required second-line drug therapy and eight patients required colectomy in index admission. There was no significant association between the need for second-line therapy or colectomy and the baseline histological scores [NHI (p=0.61), SGS (p=0.116) and RHI (p=0.109)]. All three histopathological scores performed poorly to predict the need for second-line treatment or colectomy within 28 days of admission. No significant correlation was found between endoscopic Mayo score and histological scores. There was no significant association between the degree of inflammation on baseline histology and response to steroids (NHI (p=0.796), SGS (p=0.57) and RHI (p=0.941)). There was a strong positive correlation among the three histological scores in patients of ASUC.

Conclusion: All three scores (SGS, RHI and NHI) performed poorly in predicting the need for second-line treatment or colectomy within 28 days of admission. There is a need for dedicated histopathology scores in the setting of acute severe ulcerative colitis.