

Assessing the risk for an intra-abdominal abscess in patients with Crohn's disease

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Background: The aim of the present study was to generate a simple non-invasive scoring model to predict the presence of an intra-abdominal abscess in Crohn's disease (CD) patients who were presented to the emergency department with disease exacerbation.

Methods: We performed a retrospective case control study at two Israeli hospitals (Hadassah Medical centre in Jerusalem, and Nazareth Hospital in Nazareth) from January 2010 to 30 May 2018. Inclusion criteria included patients with an established diagnosis of CD and patients who had abdominal computed tomography or magnetic resonance imaging performed. Patients were excluded if they had IBD-undefined, severe liver or haematological diseases.

Results: Three hundred and twenty-two (322) patients were included, of these eighty-one patients (25%) were diagnosed with an intra-abdominal abscess. In univariate analysis, ileo-colonic location (OR 1.88, 95% CI 1.131-3.12, P=0.0148), perianal CD (OR 7.01, 95% CI 2.38-20.66, P=0.0004), fever (above 37.5°C) (OR 1.88, 95% CI 1.08-3.25, P=0.0247), neutrophil-to-lymphocyte ratio (NLR) (OR 1.12, 95% CI 1.81-1.17, P<0.0001), and C-reactive protein (CRP) (OR 1.10, 95% CI 1.06-1.14, P<0.0001) were significantly associated with abscess formation, while, current use of corticosteroids was negatively associated with abscess formation (OR 0.46, 95% CI, 0.2-0.88,

P=0.0192). We developed a diagnostic score that included the 5 parameters that were significant on multivariate regression analysis, with assignment of weights for each variable according to the co-efficient estimate. For ileo-colonic location (1 point), peri-anal disease (3 points), absence of current steroids (2 points), CRP>0.5 mg/dl (5 points) and NLR>11.75 (3 points) (defined by the Youden J index with corresponding sensitivity of 53% and specificity of 85%). By ROC analysis the area under the curve for this score was 0.83. A low cut-off score <7 was associated with a negative predictive value of 93% for abscess formation, while a high cut-off score >9 was associated with positive predictive value of 65%.

Conclusion: We recommend incorporating this scoring model into daily clinical practice in the ED as an aid for stratifying CD patients with low or high probability for presence of an intra-abdominal abscess.

Biography

Muhammad Massarwa is currently working in the Liver Unit, which is in the Institute of Gastroenterology and Liver Diseases governed under Hadassah Medical Organization, Faculty of medicine in the Hebrew University, Jerusalem, Israel. He has served as the former doctor is Hadassah Women's Zionist Organization of America

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