AB042. 15. Preoperative inflammatory markers as predictors of postoperative complications in colorectal cancer patients

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Background: A prognostic value of inflammatory markers in the clinical outcomes of colorectal cancer (CRC) patients undergoing resection has been proposed. This retrospective study aims to determine the predictive value of preoperative inflammatory markers in postoperative complications of CRC patients regarding type and severity.

Methods: Patients (n=218) who electively underwent potentially curative resection in the Mater Misericordiae University Hospital between 2009 and 2016 were reviewed. C-reactive protein (CRP), white blood count (WBC), platelets, neutrophils, lymphocytes, platelets-to-lymphocyte ratio (PLR), neutrophil-to-lymphocyte ratio (NLR), hemoglobin, and carcinoembryonic antigen (CEA) levels were collected. Other variables accounted for include age, sex, BMI, medical history, operation type, and tumour characteristics. All 30-day postoperative events were included and patients were assigned Clavien-Dindo (CD) grades accordingly. Analysis was performed using SPSS v20.

Results: Multivariate regression analysis indicates that CRP is correlated to postoperative wound dehiscence (P=0.001), sepsis (P=0.019), and respiratory and cardiovascular complications (P=0.007). Platelets are correlated to urinary and neurological complications (P=0.011 and P=0.010, respectively). WBC are correlated to respiratory complications (P=0.042), lymphocytes to wound infection (P=0.003), and CEA to anastomotic leak (P=0.032). CRP shows significant association to CD grade (P<0.001). The value of CRP after which a postoperative complication is likely to occur is 5.5 mg/L, compared to 17.5 mg/L after which the complication is likely severe, i.e., CD 3–5.

Conclusions: Preoperative levels of these markers, most prominently CRP, are independent predictors of postoperative complications for CRC patients. Further prospective studies are recommended to determine their clinical applicability and to stratify patients into risk categories.

Keywords: Colorectal cancer (CRC); inflammatory markers; postoperative complications; C-reactive protein (CRP)

doi: 10.21037/map.2018.AB042

Cite this abstract as: Alsaif S, Aherne G, Casey P, Pua P, Cahill R. Preoperative inflammatory markers as predictors of postoperative complications in colorectal cancer patients. Mesentery Peritoneum 2018;2:AB042.