Korelasi rasio C-Reactive protein terhadap albumin dengan delta appendicular skeletal muscle index pada pasien pembedahan saluran cerna mayor di RSUPN Cipto Mangunkusumo = Correlation between C-Reactive protein albumin ratio and delta appendicular skeletal muscle index in patients undergoing major gastrointestinal surgery

Indah Sri Wulandari, author

Abstrak

Latar Belakang: Penyakit saluran pencernaan merupakan masalah kesehatan yang sering terjadi di seluruh dunia, pembedahan menjadi prosedur utama dalam penanganan tumor dan kanker saluran cerna. Tindakan pembedahan ini sering kali berisiko menimbulkan komplikasi, seperti penurunan massa otot rangka akibat peningkatan respon inflamasi. Rasio C-Reactive Protein (CRP) terhadap albumin dapat digunakan sebagai indikator penting dalam memprediksi prognosis dan komplikasi pasca operasi, termasuk inflamasi sistemik dan penurunan indeks massa otot rangka. Pengukuran rasio CRP terhadap albumin yang menilai status inflamasi dapat menggambarkan penurunan massa otot yang dinilai dengan perubahan Appendicular Skeletal Muscle Index (ASMI) pra dan pascaoperasi pada pasien yang menjalani pembedahan saluran cerna mayor.
Metode: Penelitian ini merupakan studi kohort prospektif pada pasien yang menjalani pembedahan saluran cerna mayor di RSUPN dr. Cipto Mangunkusumo. Dilakukan pengukuran kadar CRP dan albumin satu sampai tujuh hari praoperasi, kemudian hasil CRP dan albumin dibagi menjadi rasio CRP terhadap albumin. Pengukuran ASMI menggunakan Bioelectrical Impedance Analysis (BIA) seca® mBCA 525 yang dilakukan satu sampai tiga hari praoperasi dan lima sampai tujuh hari pascaoperasi. Karakteristik subjek lainnya meliputi usia, jenis kelamin, berat badan, tinggi badan, IMT, status gizi berdasarkan GLIM, etiologi pembedahan, penyakit penyerta, kadar CRP praoperasi, kadar albumin praoperasi, serta asupan energi dan protein praoperasi.
Hasil: Terdapat 78 subjek dengan rerata usia 52 tahun dan mayoritas perempuan (57,7%). Terdapat 60,3% status malnutrisi menurut kriteria GLIM, 32% subjek mengalami delta ASMI turun, asupan energi kurang sebanyak 48,7%, asupan protein kurang sebanyak 57,7%, dan nilai median rasio CRP terhadap albumin 5,98. Tidak terdapat korelasi rasio CRP terhadap albumin dengan delta ASMI (p = 0,424). Tidak terdapat perbedaan bermakan antara rasio CRP terhadap albumin dengan delta ASMI turun dan tidak turun (p = 0,813).
Kesimpulan: Tidak terdapat korelasi antara rasio CRP terhadap albumin dengan delta ASMI pada pasien yang menjalani pembedahan saluran cerna mayor. Tidak terdapat perbedaan bermakna antara rasio CRP terhadap albumin dengan delta ASMI turun dan tidak turun.
.....Background: Gastrointestinal diseases are prevalent health problems worldwide, with surgery being the primary procedure for treating tumors and gastrointestinal cancers. However, this surgical intervention often carries the risk of complications, such as a decline in skeletal muscle mass due to increased inflammatory responses. The C-Reactive Protein (CRP) albumin ratio can serve as a significant indicator for predicting prognosis and postoperative complications, including systemic inflammation and a decrease in skeletal muscle index. Measuring the CRP albumin ratio, which assesses inflammatory status, can reflect muscle

mass reduction, evaluated through changes in Appendicular Skeletal Muscle Index (ASMI) before and after surgery in patients undergoing major gastrointestinal surgery.
Methods: This study is a prospective cohort conducted on patients undergoing major gastrointestinal surgery at Dr. Cipto Mangunkusumo National General Hospital. CRP and albumin levels were measured 1 to 7 days preoperatively, and the CRP to albumin ratio was calculated. ASMI was measured using Bioelectrical Impedance Analysis (BIA) seca® mBCA 525 within 1 to 3 days before surgery and 5 to 7 days postoperatively. Other subject characteristics included age, sex, body weight, height, BMI, nutritional status based on GLIM criteria, surgical etiology, comorbidities, preoperative CRP levels, preoperative albumin levels, and preoperative energy and protein intake.
Results: A total of 78 subjects with a mean age of 52 years were included, with the majority being female (57.7%). There were 60.3% of subjects with malnutrition status according to GLIM criteria, 32% experienced a decrease in delta ASMI, 48.7% had inadequate energy intake, 57.7% had insufficient protein intake, and the median CRP-to-albumin ratio was 5.98. There was no correlation between the CRP albumin ratio and delta ASMI ($p = 0.424$). There was also no significant difference between the CRP albumin ratio and decreased versus non- decreased delta ASMI ($p = 0.813$).
Conclusion: There was no correlation between the CRP albumin ratio and delta ASMI in patients undergoing major gastrointestinal surgery. Additionally, no significant difference was found between the CRP albumin ratio and decreased versus non-decreased delta ASMI.