

THE IMPACT OF VISCERAL FAT AREA and BODY MASS INDEX ON THE OUTCOME OF 2nd STAGE COLORECTAL CANCER

Nugroho. I, Danardono E

Abstract

Background—Quantitative computed tomography (CT) assessment of visceral adiposity may be superior to body mass index (BMI) as a predictor of surgical morbidity. We sought to examine the association of CT measures of obesity and BMI with short-term post-operative outcomes in colon cancer patients.

Methods—In this retrospective study, 22 patients treated with colectomy for 2nd stage colon cancer were classified as obese or non-obese by pre-operative CT-based measures of adiposity (Visceral Fat Area) and BMI. [Obese: BMI ≥ 30 kg/m², visceral fat area (VFA) VFA > 130 cm² for men and VFA > 90 cm²]. Post-operative morbidity and mortality rates were compared.

Results— Overall complications were 54.5%, short-term complications of surgery included anastomosis leak of 4 cases (18.2%), surgical wound infections 3 cases (13.6%) and surgical wound dehiscence of 5 cases (22, 7%). Statistically the determination of visceral fat obesity was significantly associated with the incidence of complications $p = 0.049$ compared to BMI with $p = 0.058$.

The severity of postoperative complications based on the Clavien-Dindo classification is also statistically significant when associated with the rate of visceral fat obesity $p = 0.008$ compared to obesity BMI where $p = 0.34$ is obtained.

Conclusions— The usual size of BMI used may be limited by the lack of quantification of the distribution of visceral fat. We have shown that excess visceral fat as measured by abdominal CT scan is associated with a significant increase in the occurrence of postoperative colon cancer complications.

Keywords

Computed tomography; visceral fat obesity; colon cancer; surgical complication