



BODY COMPOSITION AND IMMUNONUTRITIONAL STATUS IN PANCREATIC CANCER PATIENTS RESECTED AFTER NEOADJUVANT THERAPY: A RETROSPECTIVE, MULTICENTER ANALYSIS

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Background and aims

Neoadjuvant therapy (NAT) is used increasingly to improve resectability in pancreatic cancer (PC) patients. However, it may deteriorate patients' nutritional status, which inevitably influences postoperative outcomes and prognosis. This study aimed to evaluate the impact of body composition and immunonutritional assessment on the surgical outcome in PC patients submitted to pancreaticoduodenectomy after NAT.

Methods

Data of locally advanced PC patients submitted to pancreaticoduodenectomy after NAT between 2012 and 2019 at four high-volume institutions were retrospectively recorded. Only patients with two CT scans (before and after NAT) and immunonutritional indexes (before surgery) available were included. Postoperative outcomes evaluated were overall morbidity, major complications (Clavien-Dindo > 2), and length of stay.

Results

The final cohort consisted of 121 patients. Skeletal muscle index (SMI) decreased after NAT ($p < 0.05$). Major complications occurred more frequently in patients with a lower pre-NAT SMI ($p = 0.035$), and in those who gained in subcutaneous adipose tissue compartment during NAT ($p = 0.043$). Patients with a gain in SMI experienced fewer postoperative major complications ($p = 0.002$). The post-NAT muscle wasting was associated with a longer length of stay (Beta 5.1, 95%CI [1.5, 8.7], $p = 0.006$). An increase in SMI from 35 to 40 cm^2/m^2 was a protective factor regarding overall postoperative complications (OR 0.43, 95% [CI 0.21, 0.86], $p < 0.001$). None of the immunonutritional indexes investigated predicted the postoperative outcome.

Conclusions

Body composition changes during NAT were associated with surgical outcomes in PC patients receiving pancreaticoduodenectomy after NAT. An increase in SMI during NAT should be favored to ameliorate the postoperative outcome.

Keywords

pancreatic cancer, body composition, immunonutritional status, postoperative complications.

