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Evaluation of adipose tissue volume estimated by computed tomography in patients with colorectal adenocarcinoma with and without hepatic metastasis

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Background: Colorectal adenocarcinoma represents the third most incident cancer. Obesity is a world health problem that has been controversial when associated with cancer. Evaluation of VAT (visceral adipose tissue) and SAT (subcutaneous adipose tissue) as different measurements can contribute to clarify its performance. The aim is to investigate the influence of the VAT and SAT volume in patients with colorectal adenocarcinoma with and without hepatic metastasis using Computed Tomography (CT).

Methods: VAT and SAT were evaluated in a retrospective way. All patients were chemo-naïve and did not pass through surgery before the imaging analysis. The best cutoff point for categorical variables were defined by ROC curves. Chi-square test was used to evaluate the relation between presence of variables (general metastasis, hepatic metastasis, mutation in KRAS, NRAS, PIK3CA and PTEN genes) and categorical variables (SAT and BMI).

Results: 64 patients with colorectal were evaluated. Negative correlations of SAT volume (≤ 60 cm³) and general metastasis ($p=0.012$), hepatic metastasis ($p=0.025$) and PIK3CA mutation ($p=0.007$) were found. In addition, patients with Body mass index (BMI) ≤ 27 Kg/m² were related either to presence of general metastasis ($p=0.025$), hepatic metastasis ($p=0.01$) and PIK3CA mutation ($p=0.036$).

Conclusion: Few SAT were related to general metastasis and hepatic metastasis, which can be confirmed with same results in BMI less than 27 Kg/m². Moreover, the relation between PIK3CA mutation, few SAT and BMI less than 27 Kg/m², which promote cancer cell growth, proliferation and is related to resistance to anti-EGFR therapy, confirm these results.

Biography

Pamela Bertolazzi is a Biomedical Scientist. She has completed her Graduation in 2011 and has worked with diagnostic imaging at Sirio Libanes Hospital for seven years. Currently, she is working as a Sr. Clinical Application Specialist at Siemens Healthineers. During her time at Hospital, she was invited to teach in the first Biomedical Residence Program in Brazil. She is a PhD student with a project focused on cerebral changes of obese children in University of Sao Paulo. Her work has a great repercussion around the world and she hopes that her work will help people in the near future.

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