Control Number: 57

Abstract Category: Clinical Science in Cardio-Oncology

Title: Coronary Computed Tomography Angiography in Combination with Coronary Artery Calcium Scoring for the Preoperative Cardiac Evaluation in cancer surgery

ABSTRACT BODY

Background

Cardiovascular complications are among the leading causes of morbidity and mortality in patients undergoing non-cardiac surgery. Clinical scores and functional tests are the strategy of choice for evaluating these patients, however over one-third of perioperative MACCE occur in patients with a negative study. The computed tomographic coronary angiography (CTCA) and coronary calcium score (CAC) are emerging in this context as important predictor of clinical outcomes.

Methods

: Patients older than 45 years and presenting two or more cardiovascular risk factors with indication for oncologic surgical treatment were consecutively included. All patients underwent CTCA before surgery. Patients with contraindications to CTCA or previous heart disease were excluded. Clinical and laboratory information, including troponins levels, were collected in postoperative evaluation. Multivariable models were constructed using linear regression.

Results

84 patients were included, 57% male, mean age 68 (+/- 8). 83.3%, 45.2% and 34.5% had hypertension, dyslipidemia and diabetes, respectively. Obstructive coronary arterial disease (CAD) was identified in 12.2% of patients and CAC > 100 was present in 36.9%. The incidence of myocardial injury (MI) was 38 (45%) and MACE (death, infarction, complex arrhythmias and stroke) was 6 (7.1%). The prevalence of CAC> 100 were high in patients with MI than patients without MI (55.2% vs. 21.7%, p 0.005). Similarly, there were more obstructive CAD than non-obstructive CAD in patients who development MI (31.4% vs. 8.7%, p 0.022). Multivariable models showed multivariate analysis showed preoperative blood glucose and anesthesia duration as significant factors

Conclusion

Predictive value of CCTA and CAC is high for perioperative MI in patients with cancer undergoing surgical treatment. It may be considered as a valuable tool for preoperative risk assessment in these patients, as an alternative to other noninvasive methods

Clinical Implications

CCTA and CAC may be useful in preoperative cardiovascular evaluation in this population, as a non invasive stratification of coronary disease

Table

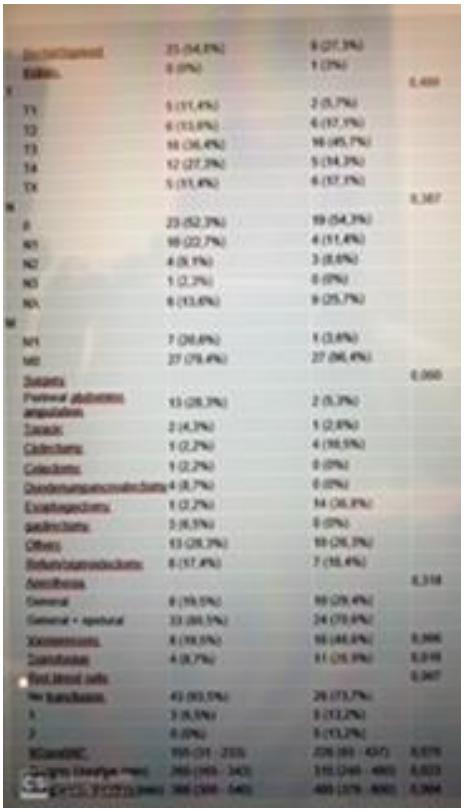

Image 1

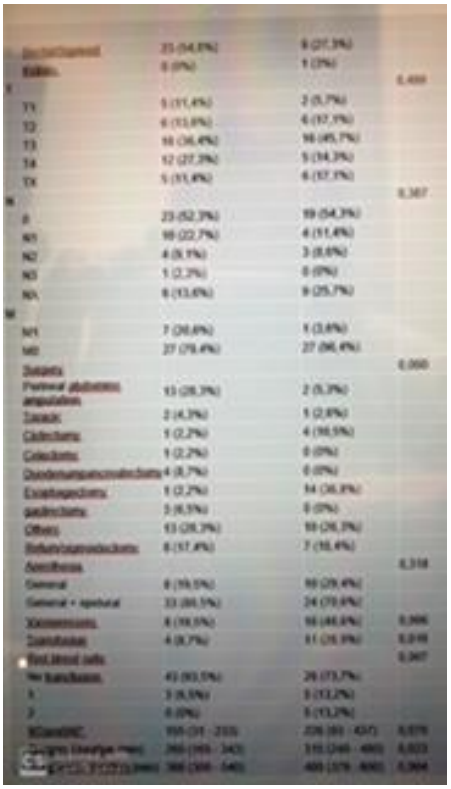

Image 2