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Keywords: Head and neck cancer, PET/CT scan, PSMA PET/CT scan;.

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TNFRSF1B GENE VARIANTS IN RISK AND CLINICOPATHOLOGICAL ASPECTS OF PATIENTS WITH CUTANEOUS MELANOMA

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Introduction/Justification: Cutaneous melanoma (CM) is a low incidence tumor worldwide but is associated with high mortality. Skin exposure to ultraviolet radiation from sunlight and genetic factors are related to carcinogenesis of CM. CM is also one of the most immunogenic types of solid tumors, eliciting an active antitumor response. Regulatory T lymphocytes (Tregs) modulate the destruction of abnormal cells by binding tumor necrosis factor (TNF) to /tumor necrosis factor receptor 2 (TNFR2) on their surfaces. Treg depletion reduced the number of metastases in TNFR2-deficient animals. Basal levels of TNFR2 altered relapse-free survival in CM patients, and antibodies targeting TNFR2 on Tregs are seen as promising agents to promote tumor immune-mediated control. TNFR2 is encoded by the polymorphic gene TNFRSF1B. Therefore, the ability to destroy abnormal cells varies among individuals, and may lead to distinct risk for melanoma and distinct clinicopathological aspects in CM patients. **Objectives:** This study aimed to analyze the roles of TNFRSF1B c.587T>G, c.*188A>G, c.*215C>T, and c.*922C>T single nucleotide variants (SNVs) in risk of CM and in clinicopathological aspects of CM patients. **Materials and Methods:** All consecutive patients with CM diagnosed at the General Hospital of the University of Campinas and the Cancer Hospital of Barretos from November 2018 to July 2000 were enrolled in study. Blood donors from the Hematology and Hemotherapy Center served as controls of the study. Clinicopathological characteristics of patients and controls were obtained from the medical records. Genotyping was performed by real-time polymerase chain reaction (RT-PCR) in DNA extracted from peripheral blood leukocytes of patients and controls. Differences between groups of patients were analyzed using Fisher's or chi-square test, and multiple comparisons were adjusted by the Bonferroni method. **Results:** A total of 433 patients and 502 controls were enrolled in the study. The TNFRSF1B c.587TT genotype was more common in patients than in controls (63.5 versus 61.6%, $p = 0.04$); individuals with c.587TT genotype were under 1.41 (CI95%: 1.01-1.98)-fold increased risk for CM than those with the remaining genotypes. An excess of the c.587TT genotype was seen in patients aged $\leq$ 54 years compared to older patients (69.5 versus 57.0%, $p = 0.007$). No associations of genotypes with pathological aspects of tumors were found in the study. **Conclusion:** Our findings show, for the first time, that TNFRSF1B c.587T>G can affect the risk and age of onset of CM. Acknowledgements: The study was supported by Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES #88887.337514/2019-00), Fundação de Apoio ao Ensino e à Pesquisa do Estado de São Paulo (FAPESP #2019/09168-8).

Keywords: Clinicopathological aspects, Melanoma, Risk.

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COMPARISON BETWEEN PET/CT WITH 18F-PSMA-1007 AND WITH 18F-FDG IN MUSCLE-INVASIVE BLADDER UROTHELIAL CARCINOMA

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Introduction/Justification: Muscle-invasive bladder cancer (MIBC) presents high rates of metastasis and recurrence, making its monitoring challenging. PET/CT with 18F-FDG is relevant in evaluating this disease, although its urinary excretion makes the analysis of some cases difficult, even when diuretics are used. Prostate-specific membrane antigen (PSMA) is also expressed in neoangiogenesis of MIBC, making it a potential disease marker. In particular, the radiotracer 18F-PSMA-1007, unlike other analogs of this molecule, is predominantly excreted through the biliary tract, thereby facilitating the evaluation of the urinary tract. **Objectives:** The aim of this study was to compare PET/CT with 18F-FDG and with 18F-PSMA-1007 in evaluating MIBC. **Materials and Methods:** Four male patients (ages 57-73 years) were prospectively studied, undergoing PET/CT 60 minutes after intravenous administration of 0.11 mCi/kg 18F-FDG and 5 and 90 minutes after intravenous injection of 18F-PSMA-1007. Additional late (2h) pelvic images were obtained with both tracers after intravenous furosemide injection. Images were analyzed by 2 experienced nuclear physicians and 1 radiologist. The maximum standardized uptake value (SUVmax) of each lesion was measured