[RPMI-1640 (Gilco®) supplemented with 5% fetal bovine serum (Gilco®) and 1% penicillin:streptomycin mixture (1000 U/mL:1000 μg/mL, Vitrocell, Brasil)] at 37 °C and 5% CO2. Each cell line (100 μL/well, in 96-well plates, 4 - 6 x10^4 cel/ml) was exposed to the gold (I) complex (100 μL/well, 0.25 to 250 μg/mL, in triplicate) and incubated for 48 h. Doxorubicin (100 μL/well, 0.025 to 25 μg/mL, in triplicate) was used as a positive control. Before (T0) and after (T1) sample addition, cells were fixed with 50% trichloroacetic acid (TCA, 50 μL/well), and cell viability was determined using the sulforhodamine B protocol at 540 nm with a microplate reader spectrophotometer (VersaMax, Molecular Devices). The difference between T0 and T1 absorbance values represented 100% of cell growth, and the proliferation (%) of each cell line in the presence of each sample concentration was calculated accordingly. Effective concentration representing the sample concentration required to promote 50% growth inhibition (GI50) for each cell line was calculated by sigmoidal regression using Origin 8.0 software. **Results:** The gold(I) complex showed potent anti-proliferative effect against UACC-62 cells (GI50 < 0.25 μg mL-1) being less active against SCC15 (GI50 ≈ 2.5 μg mL-1) and SCC4 (GI50: 10.2 μg mL-1) cells. Moreover, the anti-proliferative effect of gold(I) complex showed a good selectivity being almost 10x less active against HaCaT cells (GI50 ≈ 2.5 μg mL-1) in comparison to melanoma cells. **Conclusion:** This data indicated gold(I) complex with triphenylphosphine and 4-dimethylaminopyridine as ligands as a promisor candidate for treatment of patients with melanoma. Further in vitro and in vivo evaluations is required to evaluate the mechanism of action and toxicity of the complex. **Acknowledgements:** The study was supported by Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Fundação de Apoio ao Ensino e à Pesquisa do Estado de São Paulo (FAPESP #2016/07729-4; #2023/09738-4; Cancer Theranostics Innovation Center, (CancerThera), CEPID FAPESP #2021/10265-8), and International Atomic Energy Agency (IAEA) technical cooperation projects for development of Latin American Countries (IAEA/TCLAC: EX-BRA6033-2401375).

Keywords: Antiproliferative effect, Gold(I) complex, Melanoma, SSCC.

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COMPARISON OF 18 F-FDG AND 18 F-PSMA-1007 PET/CT IN ADVANCED LOCOREGIONAL SQUAMOUS CELL CARCINOMA OF HEAD AND NECK: PRELIMINARY RESULTS

Hadila Da Silva Veras Sousa [a], Kaique Moraes do Amaral [b], Najua Abou Arab [b], Simone Kuba [b], Lígia Traldi Macedo [a], Bárbara Juarez Amorim [b], Celso Dario Ramos [b], Carmen Silvia Passos Lima [a]

[a] *Divisão de Oncologia Clínica, Departamento de Anestesiologia, Oncologia e Radiologia, Faculdade de Ciências Médicas (FCM), Universidade Estadual de Campinas (UNICAMP), Campinas, SP, Brazil*
[b] *Divisão de Medicina Nuclear, Departamento de Anestesiologia, Oncologia e Radiologia, Faculdade de Ciências Médicas (FCM), Universidade Estadual de Campinas (UNICAMP), Campinas, SP, Brazil*

Introduction/Justification: Head and neck squamous cell carcinoma (HNSCC) is a health problem worldwide. Most patients with HNSCC have locally advanced disease, and progression or relapse of the tumor after treatment are common events. Imaging exams to assess the existence and/or extent of the tumor play a crucial role in managing these patients. 18 F-FDG and 18 F-PSMA-1007 are markers of glycolytic activity and neo angiogenesis, respectively. The PET/CT images performed with 18 F-FDG (FDG PET/CT) have unequivocal contribution in HNSCC, but the importance of the images with 18 F-PSMA- 1007 (PSMA PET/CT) in tumor is still unclear. **Objectives:** The aim of this study was to describe the findings of FDG PET/CT and PSMA PET/CT in patients with advanced locoregional HNSCC at diagnosis or relapse with the purpose of verifying whether any of these exams is more suitable for detecting the tumor. **Materials and Methods:** Patients with advanced locoregional HNSCC at diagnosis or relapse of HNSCC were enrolled in study. Patients who underwent surgical resection of the tumor or treatment with radio chemotherapy in the last six months were excluded from the study. All patients were submitted to FDG PET/CT and PSMA PET/CT with a 24-hour interval between exams. Two nuclear medicine physicians and one radiologist analyzed the images. Comparisons between groups were analyzed by t-test, and differences were significant when p-values were < 0.05. **Results:** Five patients (three patients at diagnosis and one relapsed patient) were analyzed by both PET/CT images. The median age of patients was 60 years old (variation: 52-75), four were males and 1 was female. Most patients were smokers/ex- smokers and/or drinkers/ex-drinkers, had good performance status (ECOG 0), and presented tumors at stage IV. The primary tumor was localized in oropharynx/larynx (with lymph node isease), and relapses were seen mainly in lungs, liver, and bone. The HNSCC lesions were typically characterized by FDG uptake, but most lesions also exhibited varying degrees of PSMA uptake. In primary tumors and lymph node disease, mean ± SD and median (min-max) values of SUV found with FDG PET/CT scan at 1 hour were 21.1 ± 7.6 and 21.0 (14.0-33.1) and 9.0 ± 6.1 and 7.2 (2.7-18.8), respectively. For PSMA PET/CT scan, mean ± SD and median (min-max) values of SUV at 1 hour in primary tumors and lymph nodal disease were 4.0 ± 1.0 and 3.7 (2.9-5.3) and 9.0 ± 6.1 and 7.2 (2.7-18.8), respectively. The values of FDG uptake were higher than values of PSMA uptake in both primary tumors ($p = 0.001$) and lymph nodes ($p = 0.02$). **Conclusion:** HNSCC lesions were better detected by PET/CT images with 18F-FDG than with 18 F-PSMA-1007. The uptake of both markers in most tumors indicates that glycolytic activity and neoangiogenesis occur in HNSCC, enabling a more personalized approach in patient management. Nevertheless, the current study's sample size was small to draw conclusive results. **Acknowledgements:** The study was supported by Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Fundação de Apoio ao Ensino e à Pesquisa do Estado de São Paulo (Cancer Theranostics Innovation Center, CancerThera, CEPID FAPESP #2021/10265-8), nd International Atomic

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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

Matheus Yung Perin [a],
Bruna Fernandes Carvalho [a],
Gabriela Vilas Boas Gomez [a], Juliana Carron [a],
Ligia Traldi Macedo [a], Gisele Melo Gonçalves [b],
Vinicius de Lima Vazquez [b],
Sergio Vicente Serrano [c],
Gustavo Jacob Lourenço [a],
Carmen Silvia Passos Lima [a]

[a] *Divisão de Oncologia Clínica, Departamento de Anestesiologia, Oncologia e Radiologia, Faculdade de Ciências Médicas (FCM), Universidade Estadual de Campinas (UNICAMP), Campinas, SP, Brazil*
[b] *Departamento de Cirurgia de Melanoma e Sarcoma, Hospital do Câncer de Barretos, Barretos, SP, Brazil*
[c] *Departamento de Oncologia Clínica, Hospital do Câncer de Barretos, Barretos, SP, Brazil*

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

Ricardo Norberto Tineo,
Natalia Dalsenter Avilez,
Juliano Tomé Rodrigues,
Felipe Piccarone G Ribeiro,
Helena Paes de Alm de Saito, Frederico Leal,
Barbara Juazer Amorim,
Jose Barrreto C. Carvalheira,
Leonardo Oliveira Reis, Celso Dario Ramos

Universidade Estadual de Campinas (UNICAMP), Campinas, SP, Brazil

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