

the chloramine T method (room temperature; reaction time = 120 s). The radiochemical yield (RCY) ($n = 8$) and stability ($n = 3$) were evaluated using ascending chromatography on TLC-SG strips and acetonitrile/water (95:5) as eluent. C6 and U-87 MG glioblastoma cell lines were cultured in supplemented DMEM medium (5% CO₂ atmosphere; 37°C) until reaching ~85% confluence. Subsequently, aliquots of 2×10^6 C6 or U-87 MG cells were incubated with each radiolabeled peptide (37°C) under agitation (500 rpm). In vitro binding and internalization percentages were assessed at 1 and 3 h post-incubation ($n = 6$). Data were expressed as 'mean \pm standard deviation' and the statistical analysis was performed using GraphPad Prism software. **Results:** The RCY of [¹³¹I]-anti-EGFr-LP and [¹³¹I]-anti-EGFr-LG were 92.92 ± 3.42 and 97.80 ± 1.08 , respectively. Both ¹³¹I-labeled peptides were radiochemically stable over 24 h. The in vitro interaction between C6 cells and [¹³¹I]-anti-EGFr-LP showed binding percentages of $4.80 \pm 0.37\%$ (1 h) and $5.87 \pm 1.21\%$ (3 h), with no statistically significant difference ($p = 0.1519$). The internalization percentages, within the bound fractions, increased from $64.45 \pm 4.19\%$ (1 h) to $75.15 \pm 1.60\%$ (3 h) ($p < 0.0001$). For the [¹³¹I]-anti-EGFr-LG, the data were of the same order of magnitude. The binding percentages increased from $3.95 \pm 0.33\%$ (1 h) to $6.03 \pm 0.66\%$ (3 h) ($p < 0.0001$) and the internalization percentages, among the bound fractions, were $62.57 \pm 5.53\%$ (1 h) and $64.04 \pm 3.21\%$ (3 h), with no statistically significant difference ($p = 0.5959$). The in vitro interaction between U-87 MG cells and [¹³¹I]-anti-EGFr-LP showed an increment of the binding percentages from $6.50 \pm 0.93\%$ (1 h) to $8.03 \pm 0.29\%$ (3 h) ($p < 0.0001$), but the internalization percentages, within the bound fractions, showed no statistically significant difference ($p = 0.2791$), $68.98 \pm 2.23\%$ (1 h) and $73.02 \pm 6.57\%$ (3 h). For the [¹³¹I]-anti-EGFr-LG, the binding percentages were $10.97 \pm 1.48\%$ (1 h) and $11.28 \pm 0.84\%$ (3 h), with no statistically significant difference ($p > 0.6724$). The internalization percentages, among the bound fractions, were also statistically similar ($p > 0.3596$), $68.21 \pm 0.16\%$ (1 h) and $65.36 \pm 3.56\%$ (3 h). **Conclusion:** The in vitro interaction data revealed high affinity of [¹³¹I]-anti-EGFr-LP and [¹³¹I]-anti-EGFr-LG for the C6 and U-87 MG glioblastoma cell lines, which are known to overexpress EGFr. These preliminary findings support the potential use of these peptide inhibitors as specific peptide-based targeting molecules for EGFr, with potential applications as theranostic agents.

Keywords: EGFr-targeting peptide inhibitors, Glioblastoma cells, In vitro interactions, Radiolabeled peptides.

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SKELETAL MUSCLE RADIODENSITY AND INSULIN SENSITIVITY IN PATIENTS WITH RECTAL CANCER

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Introduction/Justification: The assessment of skeletal muscle attenuation via computed tomography plays a crucial role in identifying myosteatosis among cancer patients. Myosteatosis, characterized by ectopic adipose tissue infiltration in skeletal muscles, has been linked to poor prognosis in various cancers. However, its implications specifically in rectal cancer remain uncertain. Studies have shown that myosteatosis correlates with increased insulin resistance, highlighting the need for further investigation in clinical settings. **Objectives:** This study aimed to investigate the relationship between insulin sensitivity and skeletal muscle radiodensity in patients recently diagnosed with rectal cancer. **Materials and Methods:** A cross-sectional study design was employed, inviting patients diagnosed with rectal cancer to participate. Insulin sensitivity was assessed using the M-value obtained from euglycemic hyperinsulinemic clamp tests. Skeletal muscle analysis was conducted using computed tomography (CT) images of the third lumbar vertebra processed with SliceOmatic software. Skeletal muscle was defined within the attenuation range of -29 to +150 Hounsfield Units (HU), while intermuscular adipose tissue was defined within -190 to -30 HU. The mean skeletal muscle radiodensity (SMR) was reported. Demographic and clinical data were collected from medical records. Statistical analyses were performed using Stata Corp LP® version 17.0 software. The study protocol received approval from the Institutional Review Board (CAAE: 91217418.2.0000.5404). **Results:** The analysis included a total of 33 patients, predominantly male (67%) with ages ranging from 55 to 70 years (58%). Patients across stages I to IV were represented, with 48% in stage III, 11% in stage I, 11% in stage II, and 30% in stage IV. Overweight and obesity were diagnosed in 37.5% and 30% of the sample, respectively. Common comorbidities included diabetes (21%), hypertension (60%), and dyslipidemia (21%). The M-value adjusted for Total Body Weight (TBW) demonstrated a significant association with Skeletal Muscle Radiodensity ($\rho = 0.3926$, $p = 0.0269$), whereas no statistical difference was observed when adjusting for Free Fat Mass (FFM) ($p = 0.1769$). **Conclusion:** In conclusion, our findings suggest a moderate positive association between insulin sensitivity and skeletal muscle radiodensity in rectal cancer patients.

Keywords: Insulin sensitivity, Rectal cancer, Skeletal muscle radiodensity.

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PROGNOSTIC EVALUATION OF THE NUTRITIONAL PROGNOSTIC INDEX IN PATIENTS WITH NON-METASTATIC RECTAL CANCER

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Introduction/Justification: Rectal cancer (RC) is one of the leading causes of cancer mortality worldwide. Recent studies indicate that systemic inflammation and nutritional status are associated with the prognosis of cancer patients. The prognostic nutritional index (PNI) has been increasingly studied as a predictor of survival outcome. However, despite these advances, there are few studies evaluating the prognostic capacity of this index in patients with RC. **Objectives:** To analyze the impact of PNI on the survival of patients with non-metastatic RC undergoing oncological treatment. **Materials and Methods:** This is a retrospective, cross-sectional and analytical study. It included patients diagnosed with stage I, II and III rectal carcinoma who had been treated surgically, with or without neoadjuvant and adjuvant chemotherapy, and who were attended to at the Clinical Oncology outpatient clinic of the Hospital das Clínicas of the University of Campinas between January 2000 and December 2016. Patients were categorized into low and high PNI, according to the median of the sample. PNI was calculated using the formula: $PNI = (10 \times \text{serum albumin [g/dl]} + 0.005 \times \text{lymphocytes}/\mu\text{L})$. Clinical variables, body composition and systemic inflammatory indices were also analyzed. Body composition was analyzed using computed tomography, and skeletal muscle compartments and subcutaneous and visceral adipose tissue were assessed using SliceOmatic software (Tomovision, Canada). Statistical analyses were carried out using Stata software version 12.0 (Stata Corp LP®). This research was approved by the UNICAMP Research Ethics Committee (CAAE: 22438319.9.0000.5404). **Results:** The sample consisted of 298 patients, 118 of whom had low PNI. The group with low PNI had a lower muscle mass index ($p = 0.025$) and subcutaneous adipose tissue index ($p = 0.044$), and higher subcutaneous ($p = 0.049$) and visceral ($p = 0.012$) adipose tissue radiodensity. Median disease-free survival was 24.5 months for patients with low PNI (HR 1.85; CI 1.30-2.62; $p = 0.001$). Patients with low PNI had a lower median disease-free survival (mDS) of 24.5 months compared to 107.4 months for the high PNI group [HR 1.85; IC 1.30-2.62; $p = 0.001$]. Median overall survival (mOS) was 75.3 months for the low NPI group and 140.4 months for the high NPI group (HR 1.67; CI 1.13-2.48; $p = 0.011$). **Conclusion:** The PNI performed at diagnosis is a prognostic tool for assessing the clinical outcome of patients with non-metastatic RC. Nutritional status and systemic inflammation are associated with survival in cancer patients. The PNI is a marker that combines both conditions and has been shown to be an important prognostic tool for disease-free survival (DFS) and overall survival (OS) in RC. The PNI is a simple, practical tool that uses low-cost clinical evaluation parameters and can therefore be easily implemented in clinical practice.

Keywords: Inflammation, Mortality, Nutritional status.

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EPIDEMIOLOGICAL ANALYSIS OF HOSPITAL ADMISSIONS FOR HODGKIN'S DISEASE IN BRAZIL: 2013-2023

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Introduction/Justification: Lymphomas are neoplasms originating from lymphoid tissue, with Hodgkin's Disease (HD) being noteworthy. HD manifests in two primary types: classical Hodgkin's lymphoma and Nodular lymphocyte-rich lymphoma. The classical types are identified by Reed-Sternberg multinucleated cells, subdivided as nodular sclerosis, mixed cellularity, lymphocyte-rich, and lymphocyte-depletion. The development of HD is linked to various factors, including genetic predisposition, immunosuppression, autoimmune diseases, and exposure to carcinogens. Clinical symptoms commonly observed include pruritus, intermittent fever, nocturnal hyperhidrosis, and lymphadenopathy. Differential diagnosis plays a crucial role in HD identification since clinical symptoms may resemble various other medical conditions, including other lymphoma forms, viral or bacterial infections, and autoimmune diseases, emphasizing the importance of biopsy and thorough investigation. Epidemiological analysis of HD plays a pivotal role in early diagnosis and the implementation of appropriate therapies aiming for eventual patient remission. **Objectives:** To analyze hospitalization data within the Brazilian Unified Health System (SUS), estimating disease incidence across different regions, demographic disparities, treatment costs, and mortality, aiming to provide insights for public health policies to improve management and access to healthcare services for HD patients within the SUS context. **Materials and Methods:** A retrospective study using data from the Department of Health Informatics of SUS (DATASUS) from 2013 to 2023. Data included total hospitalizations, region, age, gender, race, deaths, mortality rate, and average hospitalization cost. **Results:** Brazil recorded 53,297 HD-related hospitalizations from 2013 to 2023. Geographical distribution revealed the Southeast region accounted for the majority of cases (47.64%), followed by the Northeast (24.74%) and South (17.29%). Males comprised the majority of hospitalizations (55.56%), with females representing 44.43%. Regarding race, whites accounted for 43.84% of hospitalizations, followed by mixed race individuals (37.52%). Hospitalizations were most common among individuals aged 20-29 (24.90%), followed by age groups 15-19 (14.85%) and 30-39 (14.34%). There were 2,149 deaths during this period, corresponding to a mortality rate of 4.03%. Based on the average value per hospitalization in SUS, a total of R\$135,694,694.97 was spent. **Conclusion:** The epidemiological study reveals a higher incidence of Hodgkin's Disease in the Southeast region, predominantly among males in the age group between 20-29, along with a mortality rate of 4.03% among the hospitalized. These findings emphasize the public health challenge of HD and the need for comprehensive strategies, including awareness campaigns, screening programs, and