sions and its possible role in the follow-up of these patients. **Methods:** Twenty-six patients with established or suspected diagnosis of plasma cells malignant proliferation were enrolled at whole-body 99mTc-sestamibi scintigraphy to detect single or multiple lesions and to evaluate disease activity. The study was performed immediately after 740-1110 MBq 99mTc-MIBI intravenous injection with whole-body anterior and posterior scans. The scans were classified according to uptake pattern (focal, diffuse and focal+diffuse), intensity (relative to myocardium uptake), and site (bone or soft tissue). **Results:** From the 26 patients, 77 lesions were identified; 49% showing mild uptake, 39% moderate, and only 12% severe; 68 lesions were located in bone and three extramedullary. Most frequent bone lesions were observed in ribs (25%), pelvis (18%), femur (12%) and humerus (9%); 38% of the lesions were focal, 50% diffuse, and 12% had a mixed pattern. The three extramedullary lesions (locate in nasopharynx, oropharynx, and in the liver) were previously unsuspected and were confirmed by biopsy. **Conclusion:** This study suggests a potential role of 99mTc-sestamibi scintigraphy during the follow-up of plasma cells malignancies, in assessing suspected and unsuspected bone and soft-tissue lesions, guiding biopsy, scanning whole-body in one study, with lower dosimetry as compared to whole-body x-ray studies.

• Tema Livre •

RADIOSYNOVECTOMY WITH 153Sm-HYDROXYAPATITE (153Sm-HYP).

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Aim: To report our experience in the treatment of haemophilic arthropaty with 153Sm-HYP. **Material and methods:** From 2003 to 2005, thirty one patients with ages between 8 and 34 years old (average of 21 years old), only one female, were treated with intraarticular injection of 185MBq (5mCi) of 153Sm-HYP. A total of 77 joints were treated: 15 knees, 33 elbows, 22 ankles, 2 hips and one shoulder. After the injection, precoce (1-2h) and late (24h) scintigraphic images were acquired, to analyze, respectively, articular septation / homogeneity and escape. The clinical evaluation was made before and one year after the treatment, using objective criteria (range of motion, joint tenderness, degree of joins effusion) and subjective criteria (joint pain by visual scale and joint aspect). The response was graded as follows: 1- Excellent (E); 2 - Good (D); 3 - Mild (M); 4 - Bad (B); 5 - Worse (W). Reduction in clotting factor use and haemarthroses frequency was also evaluated. **Results:** The improvement by joints was: E = 35 (45,4%); G = 21 (27,2%); M = 14 (18,2%); B = 4 (5,2%); W = 3 (3,9%), being less accentuated in knees. The images showed material septation in only one knee and all other had homogeneous distribution (1-2h) and no articular escape (24h). There was a reduction of 40% in the clotting factor use and 55% in the haemarthroses frequency. **Conclusions:** Radiosynovectomy with 153Sm-HYP presented 72,6% of clinical improvement in the articulations evaluated, with less effective results in the knees. 153Sm-HYP seems to be a safe material, without articular leakage in the haemophilic population studied.

Infecção/Inflamação

• Painel •

GALLIUM 67 AND PSEUDOMEMBRANOUS COLITIS – CASE REPORT.

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Objective: Report a case of a patient with Fever of Unknown Origin (FUO) and 67 Gallium scintigraphy suggesting colitis. Male patient, 23 years old, in treatment for Acute Lymphocytic Leukemia, was admitted to the hospital to investigate FUO. He subsequently had diarrhea and abdominal colic without other symptoms. The patient was submitted to a whole body Gallium 67 scan which showed uptake all over the colon in the 48 hour image, without significative modification in images obtained one day later, suggesting colitis. Abdominal Echography and thoracic and abdominal Tomography were normal. Colonoscopy with biopsy confirmed the diagnosis of pseudomembranous colitis. He had history of having taken antibiotic for treatment of febrile neutropenia (meropenem and linezolide) and metotrexate chemotherapy. The Pseudomembranous Colitis, caused by *Clostridium difficile* (an anaerobic Gram positive bacillus), became a common complication of the use of antibiotics lately. There are few reports in the literature about this disease and Gallium 67 scintigraphy. There have been reported cases of uptake of this radiotracer in colitis showing good correlation between this uptake and disease extension and activity.

• Painel •

POTENTIAL ROLE OF EARLY 6 AND 24 HOURS IMAGES OF WHOLE-BODY GALLIUM-67 (67Ga) CITRATE SCINTIGRAPHY IN THE EVALUATION OF PATIENTS WITH SEPSIS OF UNDETERMINED FOCUS: A PRELIMINARY SERIES OF CASES.

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Objectives: The aim of this study was to report an initial experience of cases where the early 6 and 24h 67Ga-Citrate scintigraphy protocol helped locating the infectious site in septic patients when the origin was unknown, therefore guiding complementary investigation and/or changes in the patient therapeutic management. **Methods:** Eight patients in septic shock newly admitted in the Intensive Care Unit were enrolled at 67Ga scintigraphy searching for the infectious site detection. A whole-body sweep study was performed at 6 and 24 hours after a 259 MBq intravenous injection of the radiotracer (RT) in the anterior and posterior projections. Further spot images were also acquired when necessary. The imaging findings were confirmed with posterior additional radiologic/laboratorial complementary research or by changes in therapeutics with adequate response presented by the patient. **Results:** One patient presented radiotracer concentration (RTC) in both pulmonary basis directing antibiotic therapy (ATB) to pneumonia; 1 patient with systemic lupus erythematosus (SLE) presented RTC in bilateral mammary glands (puerperal) and kidneys (lupic nephritis) being pulsed with glucocorticoid as inflammatory activity of the (SLE); 1 presented intestinal RTC directing ATB to colitis; 1 presented left pulmonary RTC directing ATB to pneumonia; 1 presented RTC in right flank being submitted to ATB and surgical drainage of an abscess; 1 with AIDS presented pulmonary, intestinal and right clavicle (catheter insertion site) RTC guiding the ATB scheme; 1 presented right pulmonary and upper mediastinum RTC directing ATB to pneumonia and pulmonary drainage; and 1 presented pulmonary RTC directing ATB to pneumonia and left lower and upper limbs soft tissue RTC directing multiple abscess drainage. Seven patients demonstrated significant improvement of clinical conditions, and one patient died due to natural evolution of an associated neoplasia. **Conclusions:** The results of this series demonstrated that it is possible to locate the site of infection with the 6 and 24h 67Ga-Citrate scintigraphy protocol, with early location of the infectious focus and less intestinal RTC providing better abdominal evaluation. The location of the infection site led to corrections in the therapeutic measures adopted in the patient's management indicating that the 6 and 24 hours protocol can be useful to proper diagnosis or to orientate therapeutics.

• Painel •

RELATO DE CASO: CINTILOGRAFIA COM GÁLIO-67 NO DIAGNÓSTICO DE PERICARDITE CAUSADA POR LEISHMANIOSE VISCERAL.

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Introdução: A leishmaniose é uma zoonose causada pelo protozoário *Leishmania sp* e transmitida por um mosquito vetor. O vetor adquire os parasitas ao ingerir o sangue de hospedeiros infectados e, através de um ciclo vicioso, perpetua a infecção pela contaminação de espécies sãs que se tornam fonte de infecção. A doença é caracterizada por três entidades clínicas distintas: a forma cutânea, a forma visceral e a forma muco-cutânea. O diagnóstico definitivo depende da demonstração dos amastigotas em tecido ou do isolamento do organismo através de cultura. Vários testes têm sido desenvolvidos para detectar anticorpos antileishmania, sendo os mais utilizados os testes ELISA e de imunofluorescência indireta. Os antimoniais pentavalentes permanecem como drogas de escolha. Complicações são relatadas com maior freqüência em aparelho gastrintestinal, sendo raras as cardiocirculatórias. **Relato do caso:** Paciente, R.G.F., 44 anos, masculino, previamente hígido, natural da região metropolitana de Belo Horizonte, foi encaminhado para o Hospital Luxemburgo/Belo Horizonte, apresentando febre, hepatoesplenomegalia e emagrecimento. Realizada sorologia para Leishmaniose, sendo esta reagente, e biópsia de medula óssea, que foi sugestiva de Leishmaniose visceral. Iniciado tratamento com Anfotericina B. Uma semana depois, o paciente fora encaminhado para UCO por apresentar FV+TV sustentado polimórfico. Realizado ecocardiograma que evidenciou volumoso derrame pericárdico e disfunção sistólica de VE. Solicitada cintilografia miocárdica com Gálio-67 (suspeita de miocardite), que revelou, no entanto, padrão compatível com processo inflamatório pericárdico em atividade. Após exame cintilográfico, foi realizada pericardiocentese para biópsia e drenagem pericárdica, sendo os resultados compatíveis com pericardite. **Discussão:** A infecção pelo protozoário *Leishmania chagasi* pode ter complicações graves e tem como causas de óbito as hemorragias e infecções associadas devidas a debilidade física e imunológica. A medicina nuclear é método não-invasivo que possui importante papel, tanto no diagnóstico como na evolução dos processos inflamatórios/infecciosos, e vários radiofármacos têm sido utilizados com este propósito, entre eles o Gálio-67, que no caso relatado foi fundamental para o diagnóstico e terapêutica instituída.

• Painel •

99mTc-HMPAO LABELED LEUKOCYTE SCINTIGRAPHY USING AN OPTIMIZED TECHNIQUE OF CELLULAR LABELING: EXPERIENCE AND RESULTS OF A SERIE OF CASES OF PRIVATE SERVICE OF NUCLEAR MEDICINE.

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Labeled leukocytes scintigraphy (LLC) represents a refined method for diagnosis of infectious processes, particularly when laboratory and conventional image methods are inconclusive. The need of elaborated processes of cellular labeling and safety in the reinjection raise the operational cost, limiting the use of the procedure in the routine. The objective of these series of cases is to demonstrate the experience and clinical applicability of LLC in private service of nuclear medicine, by using an optimized technique of cellular labeling. **Method:** Autologous leukocytes had been labeled with 99mTc and HMPAO by a modified technique adapted from Peters et al. (1988), using up to 60 ml of anticoagulated blood and lesser than 2h between the radiolabelling and reinjection. The labelling quality control was done qualitatively through the analysis of biodistribution or presence of artifacts in lungs. The scintigraphic images had been acquired in digital gamma camera within 1-6h and 24h after the reinjection. **Results:** 31 LLC was done in the period of 2003 to June of 2006, corresponding to 0.6% of total nuclear medicine's procedures of the period. In all cases the biodistribution pattern observed were compatible with satisfactory labeling and none significant adverse reactions occurred. The main clinical indication was osteomyelitis/cellulitis (13/31; 41.9%), followed by orthopedic prosthesis (10/31; 32.3%), vascular grafts (6/31; 19.4%) and fever of undetermined origin-FUO (2/31; 6.5%). The LLC was positive in 45.2% of total cases (61.5% in the group of osteomyelitis/cellulitis; 28.6% of orthopedic prosthesis; 14.3% of the vascular grafts and 0% in the group of FUO). The majority of cases didn't have final diagnostic confirmation. **Conclusions:** LLC represents a little-explored method of all nuclear medicine's procedures. Although the relative operational complexity, the optimized radiolabelling technique demonstrated to be reproducible, safe and with satisfactory diagnostics results, allowing the maintenance of the LLC in the private medicine routine.

• Painel •

VASCULAR AORTO-ILIAC ENDOPROSTHESIS INFECTION WITH NEGATIVE COMPUTED TOMOGRAPHY AND CONVENTIONAL SCINTIGRAPHIC METHODS AND POSITIVE FDG-18F PET-CT SCAN: A CASE REPORT AND A BRIEF REVIEW OF LITERATURE.

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Background: The incidence of vascular graft infection varies from 1 to 6%. Although infrequent, the high mortality of not surgically treated patients (25-75%), as well as the high postoperative morbidity (15-60% incidence of complications or death), point to need of accurate methods for diagnosis of vascular graft infection. **Objective:** Report a case of 66 years old male patient, with suspicion of aorto-iliac endoprosthesis infection. The initial evaluation with computed tomography was inconclusive. The gallium-67 and leukocyte-HMPAO-99mTc scintigrams acquired in an interval of 5 months were negative. Due to febrile episodes refractory to antibiotic therapy the patient was led to FDG-18F PET-CT scan in another facility, which demonstrated suggestive pattern of active inflammatory process in the aorto-iliac endoprosthesis periphery. The attendant medical team decided for conservative therapy, but the fever persisted and the patient evolved to manifestations of initial stage septicemia. Urgent surgical treatment was indicated by using an axilobifemoral bypass and removal of the complicated aorto-iliac endoprosthesis, leading to diagnostic confirmation of *Pseudomonas aeruginosa* infection. The patient presented a good postoperative outcome, remaining afebrile and without antibiotic therapy. Based in this case report the authors present a brief review of medical literature about vascular graft infections, focusing on the critical analysis of currently available anatomical and scintigraphic methods, advantages and disadvantages in relation to FDG-18F PET-CT scan, and perspectives of new specific radiotracers with in vivo labeling techniques.

Informática

• Tema Livre •

QUANTIFICAÇÃO DA PERFUSÃO MIOCÁRDICA: PROPOSTA DE UM APLICATIVO DE BANCO DE DADOS PARA SE ELABORAR LAUDOS BASEADOS NA ANÁLISE VISUAL SEMI-QUANTITATIVA DA CINTILOGRAFIA DE PERFUSÃO MIO-