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PESQUISA DE HEMORRAGIA DIGESTIVA COM Tc-99m-HEMÁCIAS MARCADAS – RELATO DE CASOS.

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Objetivo: A medicina nuclear através da Pesquisa de hemorragia digestiva com tecnécio-99m-hemácias marcadas (Tc-99m-hemácias marcadas) permite a detecção de sangramento digestivo intermitente e até de baixa monta. **Método:** O exame necessita de jejum prévio de 8 horas, não é invasivo e sem risco de efeitos adversos ao paciente. Administra-se inicialmente a injeção de pirofosfato (EV) para bloquear a imagem do estômago e 20 a 30 minutos após inicia-se o exame propriamente dito já com o paciente posicionado em decúbito dorsal e com o colimador focalizando a região abdominal, injetam-se então 20 mCi (740MBq) de Tc-99m (EV) marcando no momento da injeção as hemácias do paciente e reinjetando. Faz-se fluxo inicial imediatamente pós-injeção e posteriores imagens planares da área de interesse no período de até 6 horas se estendendo com imagem complementar de 24 horas pós-início do exame. **Relato de casos:** Paciente masculino, 70 anos, submetido a colectomia total com anastomose íleo-cecal vindo à apresentar sangramento. **Procedimento:** Colonoscopia – normal. **Resultado:** A cintilografia evidenciou acúmulo anômalo do radiofármaco (RF) iniciando no ângulo hepático e estendendo-se até o ângulo esplênico e flanco esquerdo caracterizando hemorragia digestiva. Paciente masculino, 92 anos, apresentou episódio de melena com queda acentuada do hematócrito. **Procedimento:** Endoscopia digestiva alta (EDA) evidenciou pangastrite erosiva plana moderada sem sinais de sangramento. **Resultado:** A cintilografia evidenciou fixação anômala do RF na projeção de hemiabdômen esquerdo e intensamente no flanco direito se estendendo discretamente para mesogástrico e hipocôndrio e flanco esquerdo caracterizando hemorragia digestiva ativa. Paciente feminino, 81 anos, apresentando queda acentuada do hematócrito sem causa clínica aparente. **Procedimentos:** EDA, Colonoscopia e CT de abdômen sem alterações. **Resultado:** A cintilografia evidenciou acúmulo anômalo do RF na projeção de flanco e fossa ilíaca direitos tendo sido considerados como hemorragia digestiva ativa. **Conclusão:** Com base nos casos clínicos acima descritos podemos concluir que a pesquisa de hemorragia digestiva com Tc-99m-hemácias marcadas consiste num método seguro ao paciente, não invasivo e de grande eficácia não só nos casos de hemorragia digestiva ativa como nos de caráter intermitente ou mesmo de pequena monta que muitas vezes não conseguem ser detectados por outros meios diagnósticos.

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SCINTIGRAPHIC FINDINGS IN THE PERFORATED CHOLECYSTITIS: A CASE REPORT.

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Objectives: To report the imaging findings of a 99mTc-DISIDA in a case of confirmed perforation of the gallbladder after acute cholecystitis. **Patients and methods:** We analyzed the 99mTc-DISIDA scintigraphy of an 86 years old male patient with acute pain on the right upper side of the abdomen. The patient had a previous abdominal ultrasound scan with visualization of the gallbladder, which presented increased wall thickness and ecogenic content, but no visualization of calculi in its interior, and by that was considered an inconclusive examination for acute cholecystitis. Since the patient was scored as high risk of cardiologic surgical events the patient was sent to our service to perform a gallbladder radionuclide scan with 99mTc-DISIDA to confirm the acute cholecystitis diagnosis. **Results:** After 1 hour of scintigraphic study there was visualization of the rim sign but no identification of the gallbladder. After morphine intravenous administration there was quick fill-

ing of the gallbladder but with an image of linear extension of the radiotracer above the gallbladder and to the anterior surface of the right hepatic lobe, interpreted as due to perforation of the gallbladder. One day later the patient was submitted to cholecystectomy, in which was observed biliary secretion on the abdomen and a necrotic and perforated gallbladder. The biopsy histologic result revealed an acute gangrenous episode associated to a chronic acalculous cholecystitis. **Conclusion:** Although the acute cholecystitis is classically defined by the absence of visualization of the gallbladder in the 99mTc-DISIDA scintigraphy, in a perforated cholecystitis it is possible to visualize the gallbladder due to lower internal pressure and possible extravasation of biliary content to the abdomen, so other signs as the rim sign or signs of radiotracer extravasation in the abdominal cavity have to be carefully considered. Even though the perforation of the gallbladder is present only in 10% of the patients with acute cholecystitis, and existing very few case reports on the detection of this phenomena by the 99mTc-DISIDA scintigraphy, we have to be aware to avoid false negative interpretations.

Hematologia

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ARTROPATIA HEMOFÍLICA EM PACIENTES INFANTO-JUVENIS E ADULTOS, TRATADOS COM 153Sm-HIDROXIAPATITA (153Sm-HIP).

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Objetivo: A idade do paciente e o tempo de evolução da artropatia são fatores relevantes na hemofilia. Por isso foi analisado o resultado da sinoviortese com 153 Sm-HIP nas populações infanto-juvenil (até 18 anos) e adulta (acima de 18 anos). **Material e métodos:** Foram tratados 32 pacientes (pts), somente um do sexo feminino, com dose intraarticular de 185MBq (5mCi) de 153 Sm-HIP, totalizando 75 articulações. Foram divididos em dois grupos: A - infanto-juvenil, 14 pts, 26 art, idade média = 13,8 anos, com 7 anos de evolução da doença; B - adulto, 18 pts, 49 art, idade média = 25,4 anos, com 14 anos de evolução da artropatia. Foram avaliados antes e um ano após tratamento, classificando o resultado de como: 1 – excelente (E); 2 – bom (B); 3 regular (R); 4 discreto (D); 5 – sem reposta (P). O tratamento estatístico empregou o qui quadrado e o teste de Fisher quando necessário, comparando ambas populações e individualmente joelhos, cotovelos e tornozelos. **Resultados:** Grupo A: 10 E; 7B; 4 R e um P. Grupo B: 25 E; 12 B; 11 R e um P. Por articulações – Joelhos – Grupo A: 3 B; um D e um P (5 art); Grupo B: 4 E; 3 B e 4 R (11 art). Cotovelos – Grupo A: 4 E; 3 B; 3 R e um D (11 art); Grupo B: 11 E; 5 B; 6 R e um P (23 art). Tornozelos – Grupo A: 6 E, um B; um R e 2 D (10 art); Grupo B: 10 E; 4 B e um R (15 art). Não houve diferença estatisticamente significante entre os grupos comparados. **Conclusão:** Os resultados não mostram influência da idade ou tempo de instalação da artropatia na sinoviortese com 153Sm-HIP. É necessária a continuidade desta avaliação porque o número de pacientes e articulações são reduzidos.

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POTENTIAL ROLE OF TECHNETIUM-99m SESTAMIBI IN THE EVALUATION OF PLASMA CELL MALIGNANCY.

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Objective: The aims of this study were to investigate the sestamibi scintigraphy potential in identification of plasma cells malignancy le-

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 ^{99m}Tc -sestamibi scintigraphy to detect single or multiple lesions and to evaluate disease activity. The study was performed immediately after 740-1110 MBq ^{99m}Tc -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 ^{99m}Tc -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 ^{153}Sm -HYDROXYAPATITE (^{153}Sm -HYP).

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Aim: To report our experience in the treatment of haemophilic arthropathy with ^{153}Sm -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 ^{153}Sm -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 joints 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 ^{153}Sm -HYP presented 72,6% of clinical improvement in the articulations evaluated, with less effective results in the knees. ^{153}Sm -HYP seems to be a safe material, without articular leakage in the haemophilic population studied.

Infecção/Inflamação

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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}Ga 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 significant 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 linezolid) 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.

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POTENTIAL ROLE OF EARLY 6 AND 24 HOURS IMAGES OF WHOLE-BODY GALLIUM-67 (^{67}Ga) 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 ^{67}Ga -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 ^{67}Ga 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 ^{67}Ga -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.