2001 TECHNEGAS-LABELLED RICE AND WATER AS PHYSIOLOGICAL NON-ABSORBED GASTRIC MARKERS. W. M. Burch, R. Browitt, D. Crellin, S. Kaushik. Division of Clinical Sciences, John National University, Canberra, 0200, Australia.

The nanometer-sized carbon particles in Technegas are easily colloided with almost 100% efficiency from the carrier Argon gas by electrostatic precipitation onto a salt coated stainless steel grid with a few ml of water cooked into wholemeal rice. The particles become firmly incorporated in the grains. The radioactivity subsequently ingested, may be visualised as a bolus passing the full length of the g-i tract in the food mass, with negligible absorption measured in the blood attwo hours. If the Technegas coated grid is rinsed into water which is then drunk, the activity tracks similarly through both the small and large bowel unabsorbed.

Both solid and liquid phase agents have been tested in normal subjects and found to produce characteristic gastric emptying profiles and good large bowel visualisation. Results from a phase I clinical trial currently in progress and involving patients with known g-i disorders will be presented.

2002 Comparison between planar and SPECT of Tc-99m technegas scintigraphy in pulmonary emphysema

Katsuhiko Sato, Masatada Tanabe, Kazue Takahashi, Yoshihiro Nishiyama (Dept. of Radiology, Kagawa Med School)

The images of planar and SPECT of Tc-99m technegas scintigraphy were compared in 12 pulmonary emphysema cases. They inhaled technegas in several tidal volume breaths in the supine position. The images were divided into areas of heterogeneity, hot spots or defects in SPECT. In 8 of 12 patients, SPECT images showed hot spots and defects. In 6 of the 8 images were the same as on planar images, while in the other 2 SPECT showed more detailed findings than by planar images. In 1 patient showing hot spots and 3 showing heterogeneity, SPECT images were the superior to planar images. I conclude that SPECT were superior to planar in mild cases but same in moderate to severe cases.

2003 ROLE OF RADIONUCLIDE VENOGRAPHY IN SUPERIOR VENA CAVA SYNDROME

Asif M. Mahmud, T. Isawa, T. Teshima, T. Hirano, M. Miki and T. Nukiwa. (Dept. of Respiratory medicine, Inst. of Development, Aging and Cancer, Tohoku Univ.)

RI venography using 211m-Tc-MAA was performed on 107 patients with SVC syndrome and 10 healthy subjects. Collateral circulation was seen in 37 cases. In 20 cases, jugular venous reflux (JVR) was observed as the only sign suggestive of SVC obstruction. Certain indices viz transit time (TT), time of half peak count (TH) and peak count ratio (PC Ratio) were defined and calculated by computer. Comparison of the values of the indices among 3 groups of patients and normal subjects showed statistically significant difference. These indices and JVR have a potentially important role in the early diagnosis and assessment of clinical state of patients with SVC syndrome.

2004 153-Sm-EDTMP for pain palliation of metastatic bone pain.


Options for palliation of metastatic bone pain are: a) conventional analgesia, b) external radiotherapy, c) radionuclide treatment. Multiple or even disseminated metastases causing bone pain are treated by analgesics or radionuclides. 153-Sm-EDTMP can be expected to provide excellent palliative benefits for radionuclide therapy because of its short halflife. 74% of our patients experienced pain relief after one administration, in patients with prostate or breast carcinoma pain relief was observed in about 83%. With a therapeutic dose of 1295 MBq (35mCi) only mild myelosuppression was seen. The results of human studies using 153-Sm-EDTMP are preliminary but very promising. It may be used also for therapy of primary bone tumors as shown in animal experiments.

2005 BONE MINERAL DENSITY OF CHILDREN WITH BILARY ATRESIA UNDERGOING LIVING RELATED LIVER TRANSPLANTATION.


Children with biliary atresia suffer growth retardation and defective mineralization of the skeleton due to severe liver dysfunction. Living related liver transplantation (LRLT) is a recently developed curative procedure for these patients. The aim of this study was to elucidate the effects of LRLT on bone mineral density (BMD) of the patients with biliary atresia, and relate these values with various biochemical parameters pertinent to bone metabolism. We measured by dual energy X-ray absorptiometry (QDR-2000, Hologic) of lumbar BMD (L2-L4) in 10 patients (3 males, 7 females, ranging in age from 6 Mo to 14 Yr [mean age: 8.4 Yr]) who underwent LRLT in our hospital between September 1994 and February 1996. Each patient had received 500-600 mg of 1-hydroxyvitamin D3 (0.4-0.6 mg/kg BM), which were discontinued at least 1 mo prior to surgery. The age- and sex-matched 2 score of BMD was calculated, based on the data of normal French children, and were compared with those of the height and weight. The serum levels of 25-hydroxyvitamin D (25(OH)D), 1, 25-dihydroxyvitamin D (1,25(OH)2D), total calcium (Ca) and alkaline phosphatase (ALP) before and three months after LRLT were measured. All patients showed low values of lumbar BMD before LRLT(2.48±1.59, mean ± S.D.) and elevated serum 25(OH)D concentrations with that of height and weight. The serum levels of 25(OH)D increased in all patients before LRLT(2.48±1.59, mean ± S.D.), which increased to 16.5±13.5 ng/ml (p<0.05) after LRLT. Serum 1,25(OH)2D levels were 29.3±17.0 ng/ml before surgery, which also increased to 54.8±33.5 pg/ml after surgery. Serum ALP levels were high in all patients (1624±601 IU/l) before surgery, which decreased to 1163±532 IU/l after LRLT (p=0.01). There was no significant difference in serum calcium levels between LRLT (0.98±0.05 mmol/l, p<0.01) and normal patients (p<0.01). Patients with biliary atresia have low bone mass, low serum 25(OH)D and high serum ALP levels, characteristic of hepatic rickets. LRLT improves damaged bone metabolism and will correct growth retardation in these patients.

2006 RELATIVE CONTRIBUTION OF GA-67 AND Tc-99m MDP BONE SCINTIGRAPHY FOR THE DETECTION AND ASSESSMENT OF TREATMENT RESPONSE OF OSSEOUS LOCALISATIONS OF Ga-67 AVID LYMPHOMA

C. Van de Wiele, L. Noens, J. Hamers, F. De Winter, M. Simons, R.A. Dierckx

In a retrospective study it was found in 12 patients that, similar to bone scintigraphy, Ga-67 scintigraphy may be useful for detection of osseous localisations of Ga-67 avid lymphoma. Moreover, Ga-67 scintigraphy probably allows earlier and more direct assessment of treatment response of osseous localisations in Ga-67 avid lymphoma when compared to bone scintigraphy.