

O. Bone and Joints

AN IMPROVED METHOD FOR NORMALIZED BONE SCANNING

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The discovery of bone-seeking compounds that can be labeled with ^{99m}Tc has increased the clinical application of bone scanning.

However, if studies of same patient are done at different time, qualitative representations of tracer distribution can suggest changes unrelated to the patient's condition.

These difference may be due to scanning conditions that involve injection dose, waiting time, scan speed and photographic factors (cut off, window width, deviation etc.).

Therefore, if the same set of scanning conditions for a particular patient is always used, serial studies be comparable. We named these serial cintigrams, that can be comparable, "normalized cintigrams".

But one can guess that this method is a very inconvenient, paticulally it is almost imposible setting same injection dose, same waiting time, in a series of studies.

So our "normalized method" doesn't fix these two scanning conditions (injection dose and waiting time), and difference of these from first scanning are supplied by scanning speed.

Other scanning conditions, they are "photo factors", are fixed the most suitable condition with bone image, and this is not inconvenient.

Normal Scintigraphic Evaluation of the Sternum — The Study of Cancer Patients without Skeletal Metastasis —

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It is difficult to visualize the sternum clearly on the routine radiographic examination, mainly due to its position. We have examined the sternum by the bone scintigraphy using ^{99m}Tc phosphorous complexes, in cancer patients without skeletal metastasis.

The normal scintigraphic images were examined in the anterior, both oblique projections and surrounding skeletal structures. The purpose of this paper was undertaken to discriminate between the normal and pathological findings of the sternum on the images.

An ideal images of the sternum was obtained over the angle of 20° in our study. Many cases (91% of 330 cases) showed much accumulation of the radionuclide to the sternum than to the ribs, and the sharpness and forms of the sternum were observed in many variety individually. The laterality of the radioactive accumulation in the normal sternal edge, the clavicles and the first ribs was often disclosed in the postoperative state of breast and lung cancer. By means of long period observation, a focal concentration of radionuclide at the sternal angle did not always mean the metastasis of malignancy.