Uptake of Tc-99m Pyrophosphate by the Lactating Breast

Many reports in the literature have established the usefulness of technetium-99m pyrophosphate in scanning for acute myocardial infarction (*1,2*). The pyrophosphate is presumably incorporated into "damaged" myocardial mitrochondria (*3*). The uptake of this and other bone-scanning agents in active and in abnormal breast tissue has also been reported (*4,5*), and one investigator has found approximately 2% of the injected activity of technetium pyrophosphate secreted in 100 ml of breast milk. This secretion of technetium-99m into breast milk could cause confusion in the interpretation of myocardial scans. We have recently encountered such a case.

A 20-year-old woman was admitted to the obstetric service with the diagnosis of premature rupture of membranes. The patient underwent Cesarean section and experienced a septic postoperative course. On the 13th postoperative day she developed an irregular cardiac rhythm with episodes of ventricular tachycardia. Because of the sudden onset of cardiac arrhythmias, myocardial infarction was suspected. Serial electrocardiograms, cardiac enzymes, and a cardiac scan were obtained. Cardiac enzymes and ECG showed no evidence of myocardial infarction. In anterior view the myocardial scan showed increased uptake in a diffuse pattern, but further study clearly showed that this represented activity within the breast, rather than the myocardium. The scan was therefore interpreted as showing no evidence of myocardial infarction (Fig. 1).

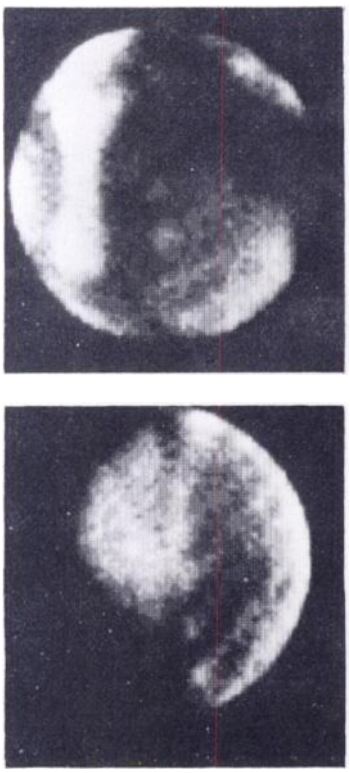

FIG. 1. Breast uptake of Tc-99m PP_i. Top, myocardial scan anterior view, showing increased activity in breast. Bottom, left lateral view showing uptake in left breast.

Because of the relative infrequency of myocardial scanning in young women, especially during the brief period of pregnancy and lactation, this finding will probably not be common. Nevertheless, when the study is indicated, such a finding, if unrecognized, could lead to inaccurate interpretation.

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Intraosseous Meningioma: An Unusual Radionuclide Presentation

Brain imaging with [^{99m}Tc] sodium pertechnetate has been shown to be highly sensitive for detection of intracranial meningiomas. The yield in most series has approached 100% (*1,2*). Accumulation has also been reported to occur in some meningiomas with the Tc-99m phosphate complexes (*3,4*).

The following is a case of a purely intraosseous meningioma presenting on skull x-rays as a lytic lesion in the left temporal region. Dynamic and static brain studies with [^{99m}Tc] pertechnetate were normal. Skull images with Tc-99m diphosphonate, however, were markedly positive.

A 42-year-old man presented with a history of headache, blurred vision, and tinnitus. His physical examination was normal. Skull x-ray revealed a 3-cm, slightly irregular lytic lesion in the left temporal area near the squamosal suture. There was no surrounding sclerosis or increased vascular markings. A brain study was performed using 25 mCi of pertechnetate. The anterior dynamic study was normal. After a delay of 3 hr, four-view static images were performed