analysis of mean condensed images reflects the visual impression of a multiple swallow test. A parameter describing the progression of a bolus through the esophagus would be clinically useful to monitor the development of esophageal disease.

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FIRST IMPRESSIONS

A ^{99m}Tc-pyrophosphate study was ordered to evaluate a recently transplanted kidney for acute tubular nephrocalcinosis. What was confirmed?

For acquisition information, turn to page 1653.

mographic film-processor temperature, development time, and chemistry: effect on dose, contrast and noise. *Am J Roentgenol* 1989;152:35–40.
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(continued from page 1538)

FIRST IMPRESSIONS:
METASTATIC CALCIFICATIONS IN HYPERPARATHYROIDISM

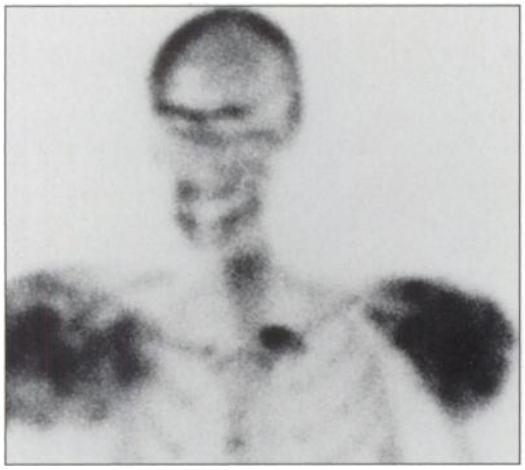

FIGURE 1.

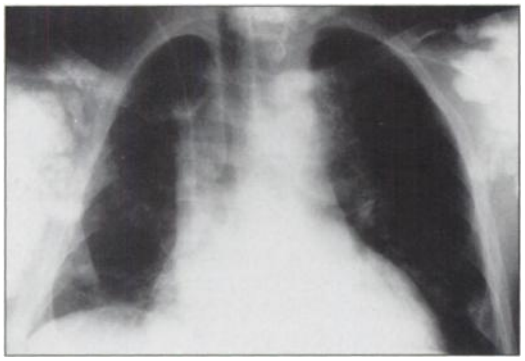

FIGURE 2.

PURPOSE
A 26-yr-old man with end-stage renal disease and secondary hyperparathyroidism was referred for a ^{99m}Tc-pyrophosphate study to evaluate his recently transplanted kidney for acute tubular nephrocalcinosis. On physical exam, the patient was noted to have huge shoulders out of proportion to his thin stature, with a palpable doughy consistency. The ^{99m}Tc-pyrophosphate scan revealed extensive globular, markedly increased tracer uptake overlying both shoulders with a focus of activity in the head of the left clavicle corresponding to a brown tumor seen on radiography (Fig. 1). Chest radiography revealed massive flocculent soft-tissue calcification in both the axillary and shoulder regions, consistent with secondary hyperparathyroidsim (Fig. 2). Surgery demonstrated marked parathyroid gland hyperplasia.

TRACER
Technetium-99m-pyrophosphate, 22 mCi (814 MBq)

ROUTE OF ADMINISTRATION
Intravenous

TIME AFTER INJECTION
2 hours

INSTRUMENTATION
Hitachi Spectrum LFOV gamma camera with LEAP collimation

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