



FIG. 3. Posterior scintigram after oral administration of Tc-99m DTPA to illustrate separation of stomach (white arrow) from photon-deficient area of perisplenic hematoma (black arrow).

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FOOTNOTE

*Mallinckrodt/Nuclear.

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Detection of Prethrombotic or Thrombotic States

The detection of prethrombotic or thrombotic states by laboratory methods has long been neglected. Von Kaulla

and von Kaulla (1) have described a panel of procedures that evaluate various pertinent coagulation parameters and provide information useful for both diagnosis and treatment. The panel requires performance by well trained technicians, thus removing it from most laboratory situations. However, two tests within the capability of a routine clinical laboratory may provide useful information as to thrombin generation (a reflection of both the speed and amount of thrombin formed in plasma, and thus, by inference, extent of clotting) and loss of protective mechanisms that interfere with clotting. The first of these tests is the modified ethanol gelation test, and the second is the functional serum antithrombin assay (1,2). In the presence of active clotting, the ethanol gelation test is positive and the serum antithrombin III levels are depressed. Resolution is correlated with a return to normal levels. Heparin does not interfere with the assays.

Radionuclide techniques for thrombus detection offer the advantage of localization of thrombus formation, much as contrast venography does, but are severely limited by confinement to use in the lower extremities. Clots occur in many other areas. Tow (3) has well summarized the approaches using radionuclide techniques.

Caretta et al. (4) notes variable correlation of radionuclide findings with clinical results of anticoagulant therapy. This is not surprising in that such techniques ignore temporal patterns and physiologic bases of clot formation and dissolution. This limits the utility of the procedure.

Nuclear medicine is a discipline that merges laboratory, imaging, and physiologic approaches in delineating regional and global function for diagnostic purposes and in planning or implementing therapy. A limitation of focus of the discipline of nuclear medicine, as suggested by current approaches to thrombus detection, is self-defeating.

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A Qualitative Method for Determining the Level of Oxidant in a Solution of [^{99m}Tc] Pertechnetate

The presence of trace levels of oxidants in various sources of pertechnetate has often been blamed for the inability of some kit radiopharmaceuticals to bind the added technetium-99m adequately. Some years ago, many manufacturers of molybdenum-99-technetium-99m generators used trace levels of hydrogen peroxide or sodium hypochlorite (1) in the eluant to ensure that all the technetium would be in the form of pertechnetate and would therefore be