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1368 THE USE OF RADIOACTIVELY LABELED PREPARATIONS TO STUDY IMMUNOLOGICAL AND INFLAMMATORY REACTIONS. Spar, Irving L. (Rochester Univ., N. Y. Dept. of Radiation Biology and Biophysics.). Contract AT(30-1)-49.

This study involves the use of isotopically labeled preparations for the detection of inflammatory lesions by scintillation scanning techniques. ¹²⁵I-labeled preparations of human fibrinogen or rabbit antibodies to human fibrinogen are being used to detect deep venous thrombi in various portions of the body as well as atrial thrombi secondary to mitral valve disease. Efforts will continue to increase the accuracy of this technique so that it can be used as a diagnostic procedure instead of the more dangerous phlebogram or arterial catheterization. The diagnostic accuracy of this procedure is now close to that obtained by other techniques.

In addition, these ¹²⁵I-labeled preparations will be used to determine objectively the extent of inflammation occurring in rheumatoid joints. It is hoped to be able to quantitate inflammation by the amount of radioactivity concentrated. This will be particularly valuable as one tries to determine the efficacy of various means of treatment. It is hoped that preparations of this type can be used for rapid and safe diagnosis of types of inflammatory lesions as described above and increase the usefulness of scintillation scanning techniques.

Earlier studies have shown that isotopically labeled antibody to human fibrinogen will concentrate in most human thrombi. Investigations involving patients with rheumatoid arthritis have shown that both labeled human fibrinogen and antibodies to human fibrinogen will concentrate in discrete foci in rheumatoid knees.