and developed with the solvent system of petroleum ether–diethyl ether–acetic acid (87.5 : 12.5 : 1, v/v/v). Immediately after the development, the thinchrod is monitored by a flame ionizing detector equipped in thinchrograph.

When the serum specimen is large in quantity (over 0.5 ml), lipid is extracted from the serum with chloroform–methanol mixture (1 : 1), and dried under the N_2 gas stream. 1 mg of dried lipid is dissolved with 100 μl of choroform and 5 μl of the solution is analyzed by thinchrograph with the same procedure described above. Unless otherwise stated, all procedures should be carried out under N_2 gas at 2–4℃.

In order to clarify the sensitivity of thinchrograph, lecithin from the yolk, cholesterol, triolein and cholesterol stearate were analyzed thinchrographically as the standards for PL, Ch, Trig, and Ch. E, respectively. Prior to use, these standards were purified by silicic acid column, followed by preparative TLC using silica gel plate. The purity of these were over 95 % in the TLC check. The sensitivity test revealed that PL, Ch, and Ch. E. were detectable at the level of 0.1 μg, and Trig, at 1 μg.

When compared to the values obtained from the usual quantitative method by means of color reaction, the thinchrographic analysis revealed comparable values of Ch, Ch. E. and Trig.

The superior characteristics of thinchrographic analysis noted above can be summarized as follows.

1) Only a small quantity of serum is necessary, 2) A large number of samples are able to be separated and quantitated in a short time, 3) A wide range of analysis is possible.

However, it is necessary to acquire skill for sampling and handling (e.g. selection of gear), and further investigation is required in the respect of reproducibility.

209. Quantitative Analysis of Serum and Tissue Lipid Components in Experimental Laboratory Animals

— II —

ANALYSIS OF TISSUE LIPID COMPONENTS IN EXPERIMENTAL ANIMAL MODELS OF DISEASES

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As described in the preceding paper (1), it was demonstrated that the thinchrography with a flame ionizing detector was a powerful tool and a suitable method for routine quantitative analysis of serum lipids in comparison with the other methods previously established. The thinchrographic method also proved to be capable of analysis as little as 5 μg of the mixture of known lipid composition. The present paper deals with the extraction of a wide range of lipid components from animal tissues, and their quantitative