DEMONSTRATION

Some Simple and Rapid Thin-Layer Chromatographic Methods for Clinical Purposes

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Chromatographic methods for amino acids and related substances (Ersser & Seakins, 1969; Ersser, 1970), phenolic acids (Ersser, Oakley & Seakins, 1970) and sugars (R. S. Ersser & B. C. Andrew, unpublished work) were demonstrated. Electrophoretic methods, used either alone or combined with chromatography, for the separation of amino acids and related substances, and employing standard low-voltage equipment, were also demonstrated (R. S. Ersser & B. C. Andrew, unpublished work). Electrophoresis at pH 1.6 is a useful alternative to phenolic solvents, particularly in two-dimensional analysis.

Commercially available thin layers of micro-crystalline cellulose or silica gel on flexible foils of plastic or aluminium are used. The increased sensitivity and resolution achieved on these layers allow samples of plasma or urine to be applied directly (amino acids) or after deproteinization (amino acids, sugars), deionization with ion-exchange resin (urinary sugars) or simple solvent extraction (phenolic acids). All separations are completed within 2h, and compare favourably with paper-chromatographic methods. These flexible foils combine the advantages of ease of handling of paper chromatography with the superior resolution and speed of t.l.c.

Examples were shown of the application of these methods to the detection and study of patients with inborn errors of amino acid metabolism, sugar intolerances and malabsorption syndromes.

Ersser, R. S. (1970). *J. med. Lab. Technol.* **27**, 142.

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