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A SIMPLE TECHNIQUE FOR THE PRECIPITIN TEST

A. I. Kayssi

A. I. Kayssi, M. D. and Dipl. Legal Med. & Psych., Paris, is the Director of the Medico-Legal Institute of Baghdad and Professor of Legal Medicine, Medical College and Faculty of Law, Baghdad, Iraq. His succinct article describes a modification of the standard precipitin test for blood and has as its principle advantage the need of only a minute quantity of unknown material. It is with pleasure that the Journal presents Dr. Kayssi's technique to its readers.—EDITOR.

The precipitin test for the identification of human blood or blood from other sources is a routine procedure in all forensic science laboratories. Varied techniques have been developed which are still used in these laboratories, but they all suffer from certain inherent defects such as: (1) The period of time taken to carry out a large number of tests; (2) the possibility of losing small quantities of irreplaceable extracts; (3) the comparatively large quantities of both specific anti-sera and blood stain extract used for the test; and (4) the manner of reading the test. This writer has therefore developed the following technique considering all of the above mentioned points.

An ordinary Pasteur pipette is used with its capillary end closed. The desired number of pipettes is placed in a rack, the holes of which are numbered. The capillary ends of these tubes are fixed in suitable grooves in the lower part of the rack as shown in Figure 1.

One drop or less of the anti-serum is run along the upper inner surface, i.e., the wide end of the tube. The anti-serum

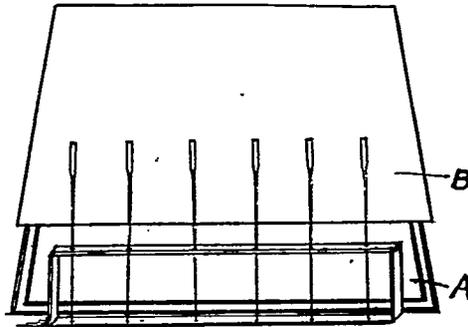


Figure 1.

The rack of capillary pipettes is placed before an X-ray viewer (A). The light is controlled by means of the sliding black background (B).

finally settles at the top of the capillary portion of the tube leaving below it an air column. One drop or less of the stain extract is now added in a similar manner. This forms a distinct upper layer on the surface of the anti-serum. The sample is now ready for reading.

The reading is carried out by day light against a black background or by placing the rack against an X-ray film viewer inclined at an angle of approximately 40 degrees. The latter method is adopted in the writer's laboratories. The illuminating surface of the viewer is adjusted by means of a sliding black background (see Figure 1). Any light coming through the rack is eliminated by a piece of black paper fixed on the side of the rack facing the examiner.

The light coming through the X-ray viewer hits the air column in the capillary portion of the pipette, and by reflection the two fluids are illuminated in an upward direction, thereby greatly facilitating the final reading. The well known ring at the line of contact between the two fluids is clearly shown in positive reactions as it appears in Figure 2.

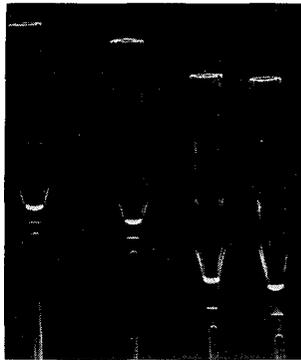


Figure 2.

The white ring at the line of contact between the two fluids indicates a positive reaction.

This technique is very rapid and a satisfactory one for performing the precipitin test. Furthermore, the test can be carried out by using a minimum amount of materials. At the same time the pipettes can be reused after cleaning, which is easily done by cutting the closed ends of the capillary portions, cleaning, and then resealing them.

There are certain advantages to this procedure. In regard to the time required for the test, it is sufficient to point out that over forty specimens have been easily tested in the course of a few minutes. Furthermore, the technique is simple, and even the weakest positive findings can be determined without difficulty.

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