

METHODS

TESTING A RESISTOGRAPH

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So that the results obtained by resistography may be correctly interpreted, it is important to exclude errors which may arise during work with the resistograph by checking the apparatus before and after the experiments. Errors in the readings of the resistograph may depend on a number of causes. One of these is wear of the pump piston (Fig. 1, 3), as a result of which its output varies with differences of pressure in the system. Another cause may be disturbance of the working of the valves (9, 10) or in the correct timing of their operation by the contacts (11) closed by the disk (12). It is not impossible that summation of these errors should occur.

The proposed method of testing the resistograph consists of recording simultaneously on the kymograph (7) the pressure created in the reservoir (A) by means of the rubber bulb (C) and the pressure created by the resistograph with a constant stroke amplitude of the piston (3) and a constant outlet resistance regulated by the screw clip (D).

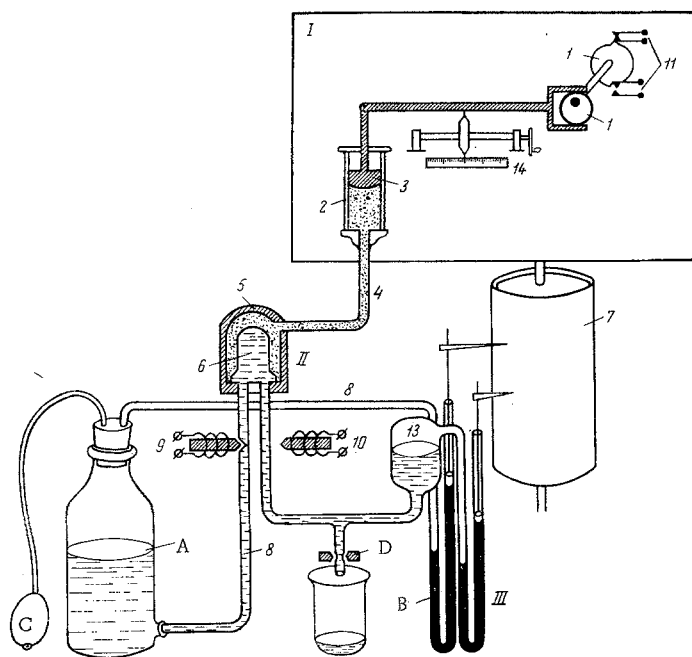


Fig. 1. Scheme for testing the resistograph. I) Driving mechanism; II) extension head; III) manometer of resistograph. 1) Eccentric turned by the motor; 2) cylinder of pump; 3) piston; 4) rigid hydraulic drive; 5) head chamber; 6) rubber cap; 7) kymograph; 8) connecting tubes; 9, 10) electromagnetic valves; 11) contacts operating valves; 12) contact disk; 13) chamber damping pulsation of perfusion pressure; 14) flow regulator and scale. A) Reservoir; B) manometer for recording pressure in reservoir A; C) pressure bulb; D) screw clip.

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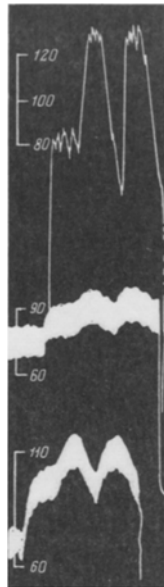


Fig. 2. Kymogram obtained during testing of a two-channel resistograph with electromagnetic valves. From top to bottom: pressure in reservoir A (in mm), pressure in first and second channels of resistograph. On the bottom curve an undesirable dependence of the resistographic pressure on the pressure in the reservoir A can be seen.

The quality of the work done by the resistograph is determined by the degree of independence of the pressure created by the resistograph of the pressure under which the liquid is transferred from the reservoir into the pump.

The result of testing a two-channel resistograph with electromagnetic valves is illustrated in Fig. 2.

LITERATURE CITED

1. V. M. Khayutin, In the book: Modern Method of Investigating the Functions of the Cardiovascular System [in Russian], p. 189, Moscow (1963).