Measurement and Interpretation of Blood Viscosity

by J A Dormandy FRCS,
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Calibration of the Wells-Brookfield microviscometer was described, including the correction for variation in hæmatocrit, which is a function of shear rate; a rate of 230 sec^{-1} was suitable for most purposes. An above-average viscosity prior to surgery was associated with an increased risk of deep vein thrombosis, whilst a high viscosity was also a feature of intermittent claudication, diabetes and a state of hyperlipæmia such as might predispose to coronary heart disease. The method has a number of important clinical applications.

Quality Control of Routine Assessment Procedures

by J D Williamson MB
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The application to clinical measurements of a cumulative plot technique based on the comparison of a daily mean with a preselected 'standard value' was described. Associated with a large throughput of data, this permits the detection of small changes in the quality of measurements, within one standard deviation about the mean. Its value was illustrated for measurement of forced expiratory volume, where the charts are of use for determining frequency of maintenance of equipment and measurements of blood pressure by nurses where they contribute to the training programme.

Need for Measurement in Routine Labour

by I A Donaldson FRCS FRCOG
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The lack of progress of measurement in normal labour contrasts with developments in other specialties. There is a case for more exact measurement of frequency and strength of uterine contractions and of dilatation of the cervix, and for this purpose there is a need for new techniques and approaches, including development of electrical tracings and a plastic cup for obtaining information from the cervix.

Computation of Cardiac Function Curves During Surgery

by D E M Taylor FRCS
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As a guide to cardiac function the single point plot of conventional measures of contractility against left ventricular end-diastolic pressure has been found unsatisfactory. This is because left ventricular function of some patients during surgery moves on to the descending limb of the classical Starling curve rather than reaching a plateau. To assess movement from one cardiac function curve to another an equation for the curve was computed using data for the response to a sudden 50 ml intravenous infusion of saline, which had the effect of causing an increase in left ventricular end-diastolic pressure. The computation was done either on-line or retrospectively from magnetic tape.

Analysis of Cardiovascular Data with a Digital Computer

by I T Gabe MD MRCP and C J Mills BSC
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A small digital computer (a PDP-12) has been programmed to analyse records made during cardiac catheterization. The data were obtained with a 3-channel catheter designed by CJM, measuring simultaneous aortic pressure, ventricular pressure and aortic blood velocity. The analysis yielded 15 features of pressure and velocity, averaged over a predetermined number of beats, as well as an optional beat-to-beat analysis.

Ultrasonic Measurement of Physiological Movement and/or Psychomotor Activity

by J D Haines, E Wood BSC
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The disturbance in sound wave pattern from ultrasonic source caused by movement of strategically placed subjects was used to produce a series of output pulses numerically proportional to the rate of movement. The procedure had been validated *inter alia* by comparing the amount of gestural activity of English and French students during descriptive and emotional speech. As expected, the French students made more gestures than the English, and in both groups gesture was less when the emotions were involved.