# VARIATION IN CHOLESTEROL CONCENTRATION IN EDTA PLASMA AND SERUM PREPARED AFTER EARLY AND DELAYED REMOVAL OF FORMED ELEMENTS

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# VARIATION IN CHOLESTEROL CONCENTRATION IN EDTA PLASMA AND SERUM PREPARED AFTER EARLY AND DELAYED REMOVAL OF FORMED ELEMENTS

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Serum/plasma difference and prolonged serum-clot contact time, are two pre-analytical variations in the determination of concentration of analytes. The study was conducted to evaluate the impact of these two variations of total cholesterol measurement.

Total cholesterol concentration, determined enzymatically using a commercially available reagent, in blood samples (100 subjects ) prepared as plasma with dipotassium-EDTA, serum separated three hours after blood clotting and serum obtained after early removal of the formed elements were 221.1 $\pm$ 31.9, 226.7 $\pm$ 35.8 and 226.4 $\pm$ 34.8 mg/dl respectively.

Cholesterol concentration of plasma and serum obtained after clotting when compared with serum prepared after early removal of the formed elements were dissimilar; plasma cholesterol concentration being 2.38% lower, and cholesterol concentration in serum separated after clotting being 0.14% higher. The cholesterol concentration of EDTA- plasma when compared with serum prepared following immediate centrifugation of the formed elements was statistically significant with the two-tailed paired sample *t* test.
( $p<0.01$). However, there was no statistically significant difference in cholesterol concentration between the two serum groups ( $p>0.01$ ).
Therefore, the two types of sera, which yielded almost identical cholesterol concentrations, were preferred to EDTA plasma for cholesterol concentration determination by enzymatic end-point method.