



Collection and handling of specimens

The samples should be collected according to the standard hospital methods.

Blood: Analysis is preferably performed on sera in order to avoid the fibrinogen band (in plasma) which migrates in the gamma zone and could lead to a false interpretation. Venous blood from a fasting individual is drawn into a tube. After centrifugation the supernatant fluid (serum) can be stored at 4-8°C for 48-72 hours. Storage at -20°C may disturb some of the electrophoretic patterns. It is known that the proteins are stable for 2-3 days at 4°C. However, other serum components such as lipoproteins and isoenzymes are unstable and therefore they have to be tested within 1-2 hours. Care should be taken to prevent haemolysis in the serum because it will cause false elevation in the α_2 and β -fractions.

Cerebrospinal fluid (CSF): Normally, some 80% of the proteins of cerebrospinal fluid originate from plasma, and the rest have been synthesized locally. The filtration resistance for plasma protein rapidly increases with molecular size and therefore the ratio of large proteins normally is much lower in CSF than in plasma. The protein content of CSF is in the range of 15-40 mg/dl. Therefore it must be concentrated at least 150-fold before electrophoresis.

Urine: Analysis of the urinary proteins shows that normal urine contains more kind of proteins, which are much diluted, and therefore it must be concentrated. For the detection of Bence-Jones proteins, free Kappa and Lambda light chains the sample has to be concentrated to ≥ 100 mg/dl of total protein and to about 80 g/dl of total proteins for immunoglobulins.

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