ESR

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ESR - Test

ESR

- Erythrocyte sedimentation rate (ESR) is a test that indirectly measures how much inflammation is in the body.
- It is easy to perform, widely available and inexpensive,non-specific test that has been used for many years to help detect conditions associated with acute and chronic inflammation.

It is useful for detecting and monitoring:

1- Autoimmune disorders

2-Arthritis

3-Tuberculosis

4-Inflammatory diseases that cause vague symptoms

- **Normal values**
- Children 0-13 mm/hr
- Adults
- Men under 50 years old :less than 15 mm/hr
- Men over 50 years old :less than 20 mm/hr
- women under 50 years old :less than 20 mm/hr
- women over 50 years old :less than 30 mm/hr
- ESR of more than 100 mm/hr is strongly associated with serious underlying disorders like connective tissue disease and malignancies.

Increased ESR rate may be due to :

1-Anemia

2-Kidney disease

3-Bone infection

4-Pregnancy

5-Cancers such as lymphoma or multiple myeloma

6-Tuberculosis

Decreased ESR rate may be due to:

1-Hyper viscosity

2-Polycythemia

3-Sickle cell anemia

4-Low plasma protein (Liver or Kidney disease)

Westegren's method:

That include:

1-Westergren tube:is tube like 1 ml pipete,but graduated from 0 to 300 mm with diameter 1 mm.

2-Westergren rack

3-Venous blood

4-ESR solution for dilution which contain sodium citrate 3.8 %

PROCEDURE

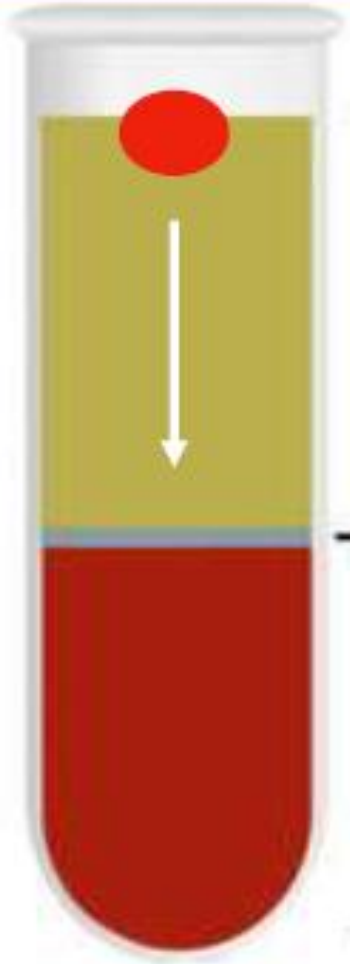
-The blood sample must be mixed with anticoagulant agent in this test.

3.8% tri-sodium citrate solution. 0.4 ml of tri-sodium citrate is added in 2 ml of blood.

1. Mix gently with out shaking then put in the graded tube and leave it stand vertically on the stand for 1 hour.

2. Read the amount of plasma that appeared without moving it then leave it to the second hour and read another time

plasma viscosity and speed?



Erythrocyte Sedimentation Rate (ESR)

Distance Red Blood Cells have fallen within 1 hour

White Blood Cells

Red Blood Cells (=Erythrocytes)

Thank You