**Baghdad University Practical Immunology College of Sciences for Women Lab-11/ 4 th stage Biology Department Dr. Rasha Majid Abd-ulameer**

**Agglutination Reactions**

**8 - Anti-streptolysin-O (ASO) tests:**

**PRINCIPLE OF THE METHOD:**

The Aso-latex is a slide agglutination test for the qualitative and semi- quantitative of anti-streptolysin O (ASO) in human serum. Latex particles coated with streptolysin o (SLO) are agglutinated when mixed with samples containing ASO.

**CLINICAL SIGNIFICANCE:**

Streptolysin o is a toxic immunogenic exoenzyme produced by B heamolitic Streptococci of groups A , C and G.

Measuring the ASO antibodies are useful for the diagnostic of rheumatoid fever, acute glomerulonephritis and streptococcal infections. Rheumatic fever is an inflammatory disease affecting connective tissue from several parts of human body as skin, heart. joints, etc ... and acute glomerulonephritis is renal infection that affects mainly to a renal glommerulus.

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• Instruction leaflet.

• Streptolysin o test card.

• Latex particles coated with Streptolysin o, pH, 8.2. • Control + (Red cap): Human serum with Streptolysin o concentration >200 IU/mL.

• Control - (Blue cap): Animal serum.

• Plastic stike.



Streptolysin o (**ASO-latex**) kit.

**SAMPLES:**

Fresh serum, Stable 7 days at 2-8 ° C or 3 months at-20 ° C. Samples with presence of fibrin should be centrifuged, Do not use highly hemolysed or lipemic samples.

**PROCEDURE**

**Qualitative method**

1. Allow the reagents and samples to reach room temperature.

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The Sensitivity of the test may be reduced at low temperatures.

2. Place 50 **µl** of the sample and one drop of each Positive and Negative controls into separate circles on the slide test.

3. Swirl the ASO-latex reagent gently before using and add one drop (50 **µl**) next to the sample to be tested.

4. Mix the drops with a stirrer, spreading them over the entire surface of the circle. Use different stirrers for each sample.

5. Place the slide on a mechanical rotator at 80-100 rpm for 2 minutes. False positive results could appear if the test is read later than two minutes.

**Semi-quantitative method**

1. Make serial two fold dilutions of the sample in 9 g / L saline solution.

2. Proceed for each dilution as in the qualitative method.

**Result of the test:**

Presence of Agglutination → Positive **.** Figure (1) No Agglutination→ Negative. Figure (2)

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Streptolysin o (**ASO-latex**) **Positive (1), Negative(2)**

**READING AND INTERPRETATION:**

Examine macroscopically the presence or absence of visible agglutination immediately after removing the slide from the rotator, the presence of agglutination indicates ASO concentration equal or greater than 200 IU / mL.

The titer, in semi-quantitative method. is defined as the highest dilution showing a positive result.

**CALCULATIONS:**

The approximate ASO concentration in the patient sample is calculated as follows:

200 **x** ASO titer = IU / mL.

**Normal**

A dults : Less than 200 IU / mL.

Children <5 years old : Less than 100 IU / mL.

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LIMITATIONS OF PROCEDURE:

- False positive results may be obtained in conditions such as. reumatoide arthritis, scarlet fever, tonsilitis, several streptococcal infections and healthy carriers.

- Early infections and children from 6 months to 2 years may cause false negative results.

- A single Aso determination does not produce much information about the actual state of the disease. Titrations at biweekly intervals during 4 or 6 weeks are advisable to follow the disease evolution.

- Clinical diagnosis should not be made on findings of a single test result, but should integrate both clinical and laboratory data.

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