Al-Mustaqbal University
College of Sciences Intelligent
Medical Systems Department

كلية العـــــــلوم

قـســـــــم علوم الأنظمة الطبية الذكية

LECTURE: (5)

Subject: Blood collection

Level: first

Lecturer: MSc. Amna shaker Shahad

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Blood Group Test

There are 4 main blood groups (types of blood): A, B, AB, and O.

these letters indicate the type of antigen found on the red blood cells. Your blood group is determined by the genes you inherit from your parents.

Blood is made up of **red blood cells**, **white blood cells**, and **platelets** in liquid called plasma. Your blood group is identified by antibodies and antigens in the blood.

Antibodies are proteins found in plasma. They're part of your body's natural defenses. They recognize foreign substances, such as germs, and alert your immune system, which destroys them.

Antigens are protein molecules found on the surface of red blood cells.

- **Blood group A** – has A antigens on the red blood cells with anti-B antibodies in the plasma
- **Blood group B** – has B antigens with anti-A antibodies in the plasma
- **Blood group O** – has no antigens, but both anti-A and anti-B antibodies in the plasma.
- **Blood group AB** – has both A and B antigens, but no antibodies.

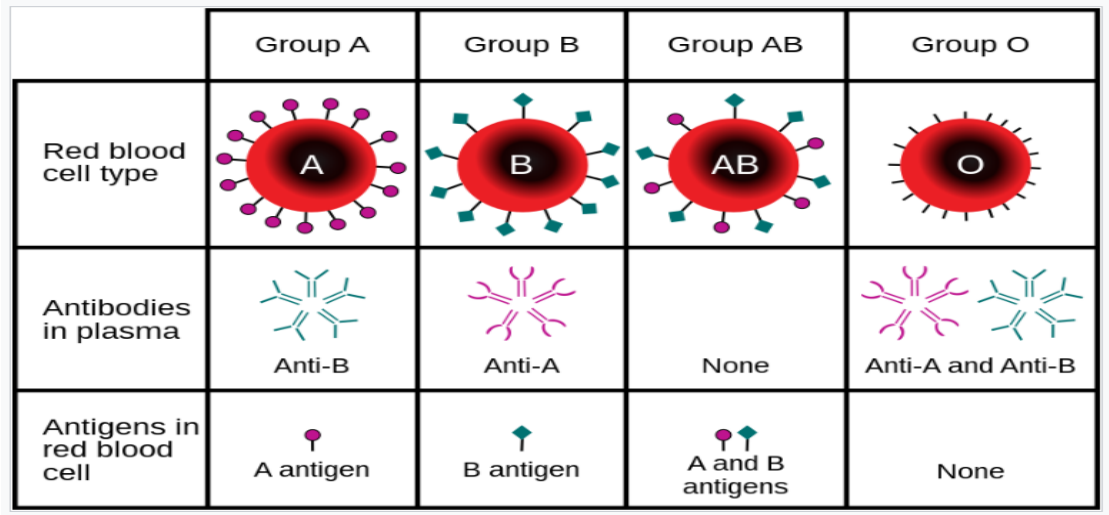


Figure (1): Blood type (or blood group) is determined, in part, by the ABO blood group antigens present in red blood cells.

The principle:

A dropping of blood is mixed with anti-A and anti-B antibodies to the sera and examined for agglutination.

Purpose:

To determine blood group

Apparatus and reagents:

1) Anti-ABO sera kit.

2) Glass slid.

3) Sticks.

4) Blood sample.

5) Lancet.

Procedure:

1) Divide a microscope slide into two areas; A and B.

2) Prick a finger with a sterile lancet.

3) Place one dropping of blood in each of the two areas.

4) Add one dropping of anti-A reagent to the A area.

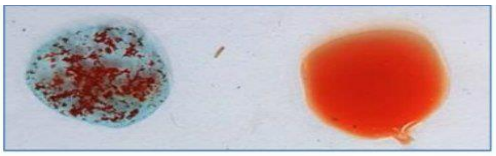
5) Add one dropping of anti-B reagent to the B area.

6) Mix each of the droppings in each area separately.

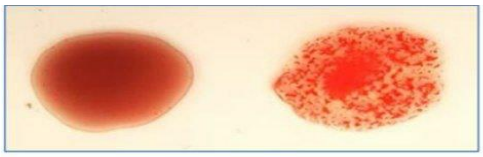
7) After two minutes observe the area for evidence of agglutination of the red blood cells.

8) Find out the blood group type.

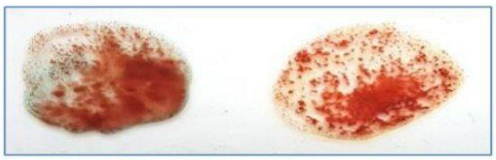
This Figure shows examined blood groups:



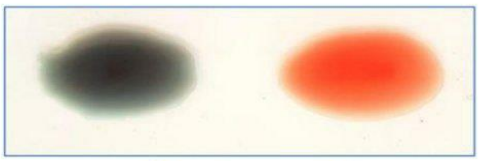
Blood group (A)



Blood group (B)



Blood group (AB)



Blood group (O)