

Bombay Blood Group

The Bombay Blood or hh blood group is a rare blood phenotype first discovered in Mumbai (then called Bombay). It was discovered in 1952 by Dr Y.M. Bhende. This blood phenotype is mostly found in India, Bangladesh, Pakistan and in some parts of the Middle-East region.

This article will further elaborate upon the Bombay Blood group within the context of the IAS Exam.

How common is the occurrence of the Bombay Blood Group?

The Bombay blood group is a very rare blood group that is usually present in about 0.0004% (about 4 million) of the total human population, although the occurrence in Mumbai is as much as 0.01%, which means 1 in 10,000 may possess the blood group. Given the rarity of the blood group, blood transfusion of this phenotype is a difficult task.

Problems associated with the Transfusion of Bombay Blood Group

Those that possess the hh phenotype do not express H antigen, which is also present in the O blood group. Thus they cannot make A antigen or B antigen (known otherwise as substance A or substance B respectively) on their red blood cells. Due to this reason, people with the Bombay Blood group can donate blood to any member of the ABO blood group system, but they cannot receive blood from any member of the ABO blood group system. In other words, only those who have the Bombay Blood themselves can safely receive a blood transfusion from the same phenotype without any complications.

Genetics of the Bombay Blood Group

The Bombay Blood group occurs in those individuals who have inherited two recessive strains of the H gene. Such individuals do not produce the H carbohydrate. As this

Because both parents must carry this recessive allele to transmit this blood type to their children, the condition mainly occurs in small closed-off communities where there is a good chance of both parents of a child either being of Bombay type, so carrying the Bombay characteristic as recessive. Other examples may include noble families, which are inbred due to custom rather than local genetic variety.

Frequently Asked Questions about the Bombay Blood Group

What blood type is Bombay Blood?

The Bombay Blood group is a rare blood group, phenotypes of this group lacking H antigen on the red cell membrane and have anti-H in the serum. It fails to express any A, B or H antigen on their red cells or other tissues. In simpler terms, it is quite an abstract type of blood group

How is Bombay Blood identified?

In this blood group, no "A" or "B" antigens are identified on red blood cells or in secretions. By definition, that would fit the type "O" blood type. In Bombay phenotype, there is a void of A antigen, B Antigen as well as H antigen. This is how Bombay Blood is identified.

What is the H antigen in the blood?

The H antigen is a short sequence of sugars found on many cells in the human body, but especially attached to red blood cell membranes and floating free in plasma and secretions.