

Bombay blood group

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Why in news?

Recently there has been a spike in demand for a rare blood type called Bombay blood group.

About the Bombay blood Group:

- Blood types are divided into four common blood groups under ABO's blood group scheme, i.e. A, B, O, AB.
- Each red blood cell has a surface antigen that helps to determine which group it belongs to.
- Depending upon a person's ABO blood type, the **H antigen** is converted into either the A antigen, B antigen, or both.
- If a person has group O blood, the H antigen remains unmodified.
- Therefore, the **H antigen is present more in blood type O and less in blood type AB.**
- **In the Bombay blood group, individuals have inherited two recessive alleles of the H gene (i.e. their genotype is hh).**
- This means that **there is no antigen H in the RBC of the hh blood group.**
- **Dr Y M Bhandari first discovered the rare Bombay blood group in 1952 in Mumbai** (then in Bombay).
- The occurrence of the hh blood type is one in four million worldwide.
- Nevertheless, because of inbreeding and close marriage between groups, the blood type is more prevalent in South Asia than anywhere else.
- In India, between 7,600 and 10,000 people are born of this kind.
- Because of the rare hh blood type, patients experience blood transfusion problems, which often lead to death.

- **Individuals with the blood group of Bombay can only transfuse blood from people with a very unusual Bombay hh phenotype.**
- **This is not usually stored in blood banks, particularly because it is rare and blood shelf-life is 35-42 days.**
- **Hh blood group, on the other hand, can donate their blood on ABO blood types.**