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Thalassemia and the Mark of Assurance

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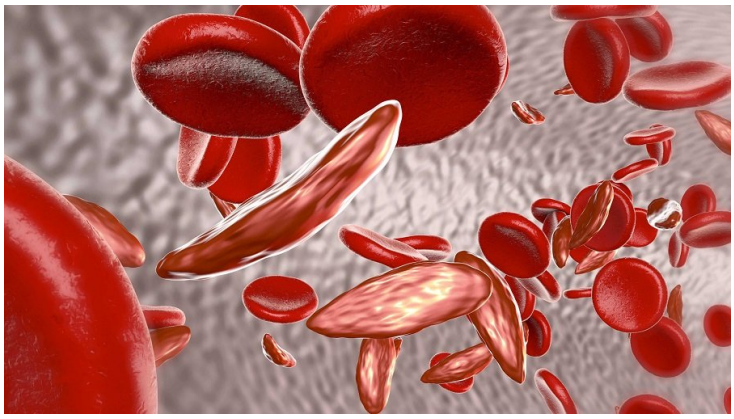

The poster from a distance looked predominantly red in colour and stated: “One pint of blood can save up to 3 lives”. Rina shifts her gaze to some finer prints at the bottom of the same poster but is unable to read it. Observing things around her, is how Rina spends her time at the hospital lobby, waiting for her 4 year old daughter’s routine blood transfusion to be done. Rina’s daughter has Thalassemia Major and requires transfusion every 2 weeks. She wanders into her thoughts, which take her to an unknown place where she is suspicious about the origin of the blood being transfused in her daughter. Soon she remembers having read about a recent case, where a child got HIV through transfusion. She starts to feel anxious and stressed, thinking about the credibility of the blood that her daughter is receiving.

In India, close to 12,000 children are born with Thalassemia every year. In this condition, the red blood cells are destroyed at a faster rate, leading to anaemia, which can cause fatigue and other complications. Thalassemia Major is the more severe form of the disorder that occurs when a child inherits two mutated genes, one from each parent. Children born with this condition usually develop the symptoms of severe anaemia within the first year of life and need regular transfusions for treatment. As the child grows in age, the requirement for blood also goes up. Repeated transfusions expose patients to the risk of contracting Transfusion Transmitted Infections (TTIs) like HIV, Hepatitis B and Hepatitis C. A few months back, a shocking case came into light, where 7 Thalassemic children got HIV and Hepatitis C through infected blood in Ranchi. Such cases keep sprouting up almost every few months and many may even go unnoticed since the time taken by some of the infections to develop into symptoms may take years. Due to regular repeat blood transfusion, chances of contracting infections are very high. Reports suggest that up to 1/3rd of Thalassemia patients who undergo blood transfusion, may get infections like HIV, HBV or HCV .

There have been numerous initiatives by the government to ensure safe blood transfusion like the formulation of the National Blood Policy, mandatory licensing of blood banks, formation of bodies like NBTC and SBTC, efforts to promote voluntary blood donation, etc. Still, unfortunate cases of TTIs keep happening, which are absolutely devastating for the Thalassemic kids and their families. The occurrence of such repeat incidents of TTIs from across various cities and towns in India, establishes the fact that there is something which is missing in the current mandated blood screening protocols.

One of the major aspects of blood safety is the detection and removal of infectious units from the blood supply. In India, the method of blood screening which is practised across blood banks is Serology-based testing. The biggest concern that is

associated with the use of conventional serology-based testing is that the early syage infections which are also called window period may get missed by such tecjnniques.

To avoid such cases, many hospitals and blood banks in India are moving towards the ID-NAT technology. ID-NAT or Individual Donor Nucleic Acid Testing is an advanced molecular technique that brings down the probability of TTIs by significantly reducing the window period of infection. The benefit that this technique offers over the conventional serology-based tests (ELISA) is the direct targeting of the viral genetic material. That way, it does not have to depend on the body's immune response to act, like in the case of serology.

ID-NAT can detect any infection in the donated blood, even in cases of window period infections and occult hepatitis B infections. Thus, it provides an additional layer of safety to the blood units in addition to the conventional serology techniques.

Lost in her thoughts, Rina gets startled when her daughter gently taps on her shoulder and tells her that she is ready to go back home. While coming out of the hospital lift, something catches Rina's attention. It is a poster on the wall, which reads 'Assurance of Safe Blood'. On reading closely, she sees the line "We ensure safe blood transfusion for our patients through ID-NAT testing". This immediately rings a bell in Rina's mind and she feels a sense of immense relief and assurance. Rina looks at her daughter and smiles, thinking that her daughter is in safe hands.

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