WHO Blood Regulators Network (BRN)

Position Statement on Collection of Blood for Transfusion in the Setting of a Vaccination Campaign Against Yellow Fever*

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Background

In the course of a 2016 outbreak of Yellow Fever (YF) in some countries of central Africa (1), the question was raised whether it is safe for transfusion recipients to receive blood from donors recently vaccinated against YF virus. In particular, the concern was focused on potential risk to a fetus from exposure to live vaccine virus present in blood or blood components transfused to the pregnant woman.

In general, live virus vaccines are contraindicated in pregnancy to avoid potential risk to the fetus. The standard procedure recommended in the current WHO guidance (2) to defer blood donors for 28 days after receipt of a live virus vaccine is appropriate in the setting of vaccination against YF.

However, based on an assessment of the relative benefits and risks, vaccination of pregnant women is indicated when risk of infection is high, the disease is associated with significant risk of morbidity to the mother or fetus, and the vaccine is unlikely to cause harm. WHO has advised that these conditions are met for vaccination against YF (3). YF disease is likely to cause death of both a mother and fetus. Conversely, publications on the outcome of YF vaccination in pregnant women in Brazil have not reported untoward outcomes in fetuses, even in cases where virus transmission was demonstrated (4). Similarly, benefits of breastfeeding are considered to outweigh potential morbidity in babies of recently vaccinated mothers despite transmission of the vaccine virus (5).

Although there are no reports of associated adverse events, organized empirical data are lacking regarding the safety of a viremic blood transfusion from a donor recently vaccinated against YF. However, it is reasonable to extrapolate that since direct vaccination against YF is acceptable in at-risk pregnant women, then transfusion of potentially viremic blood should be at least as acceptable in situations where it cannot be avoided. In other words, the risks of maternal and fetal exposure to YF vaccine virus from a transfusion should not outweigh the benefits of an indicated transfusion in settings where transfusion might not otherwise be available.
**Recommendation**

No significant fetal or neonatal harms are known associated with YF vaccination of pregnant women or by YF vaccine virus transmission through breastfeeding. Therefore consideration can be given to blood collection from recently YF vaccinated but otherwise qualified blood donors in circumstances of an acute local blood shortage in an outbreak area.

Nevertheless, during the course of a YF outbreak prudent measures should be taken to prevent exposing transfusion recipients to wildtype YF virus. To address this risk blood collectors are encouraged to exercise the following precautions in a YF outbreak area:

- provide alternative sourcing of blood from an unaffected area as feasible;
- quarantine collections (14 days for RBC and plasma; 3 days for platelets) with re-contact of the donors to enable discard of units if the donor developed signs or symptoms suggestive of YF post-donation;
- defer for 28 days after symptom resolution of donors with history of signs or symptoms suggestive of Yellow Fever.

**References**


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