

French Army 2009 Update of Transfusion in Military Overseas Operations

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Introduction: The French military service recently has updated its transfusion policy for overseas operations according to its previous experience and recent medical literature.

Methods: A structured search of Medline and the database of United States Army Institute of Surgical Research was performed using a combination of MeSH terms.

Results: A total of 2,131 articles were identified, of which 71 relevant articles were abstracted, thus facilitating an update of transfusion policy during overseas operations. Briefly, for hemorrhagic shock (HS), it was decided to transfuse red blood cells (RBC) and plasma in a 1/1 ratio, 0.2 gr of fibrinogen (Fi) for every RBC unit, and increase the early use of platelets. Accordingly, it was decided to increase the availability of Secured Freeze-Dried Plasma (FDP) and Fi for forward surgical teams, and to promote the use of fresh whole blood (FWB). Predefined protocols for FWB use for both individual (HS) and collective (blood bank shortage) indications were implemented. A protocol for FWB collection was implemented separately aiming at the anticipation of emergent needs.

Conclusions: The French army's medical service has updated its transfusion policy in order to increase the availability of clotting factors for overseas medical operations through the improvement of FDP and FWB use.

Keywords: military; overseas operations; policy; transfusion; update
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Incidence of Autoantibodies in Servicemen

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Introduction: The incidence of irregular allo-antibodies (IAA) against red blood cells (RBC) in the general population is unknown. The question is relevant during overseas military operations, since RBC are transfused without awareness of the presence of such antibodies. Thus, one asks if an IAA screening should be conducted for servicemen before overseas operations.

Methods: A research of IAA was performed in all blood donations in the French army's national blood bank during the year 2007. The prevalence of irregular antibodies was analyzed according to age and gender of donors.

Results: A total of 17,784 donations were analyzed. In 44 cases, an IAA was identified. Thirty-three of 44 were not transfused. Eleven IAA in 11 donors (eight women/three

men, mean age 32 (21–47 years)) were considered clinically relevant. The IAA identified were: anti-RHD (anti-RH1) (4/11), anti-E (anti-RH3) (7/11), anti-c (anti-RH4) (2/11), and anti-S (anti-MNS3) (1/11). Three women had two different antibodies for each: anti-D+E or anti-E+c or anti-c+S.

In a selected population fit for blood donation (young, healthy, and without any previous transfusion), the prevalence of IAA associated with an unsafe transfusion is 6.2/10,000 (CI 95% = 3.1–11/10,000), 2.4/10,000 for men and 14.5/10,000 for women ($p = 0.0001$). Anti-E antibodies identified in men are natural antibodies without risk of adverse reaction. IAA identified in women are probably of obstetrical origin and may cause hemolytic transfusion reactions. According to these data (rarity of relevant antibodies and low benefit/risk ratio) the French army medical service has chosen to not perform mandatory IAA screening for servicemen.

Keywords: blood, irregular antibody; military operations; transfusion
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French Project for the Traceability of Products and Blood Transfusion in OPEX

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Introduction: The French military Joint Health Service (SSA) provides its operation theaters (OPEX) with blood products (BP) prepared in France. Additionally, fresh whole blood collection is used to face shortages or needs for platelets or clotting factors. Transfused patients are French and allied soldiers or civilians in the context of medical assistance (AMP). The Military Blood Transfusion Center (CTSA) has worked with the 2007 data and has found that only 61% of BP and 51% of transfusions were tracked.

Objectives: This project aims at improving the traceability of BP sent and transfused in OPEX.

Methods: Computerized traceability was considered, but the use of paper records was preferred due to technical and logistical issues. At the CTSA level, the data will be entered into dedicated software, enabling centralization, archiving, and accessibility. Two documents are used to track BP sent in OPEX (transfused or destroyed). All BP used by the nations of NATO are listed and all documents are written in French and English.

Results: In 2007, 2,539 CGR were sent in OPEX, 1,445 (56.9%) destructions were tracked. For the 1,094 (43.1%) remaining, 105 transfusions (4.1%) were recorded. The tracking of 989 (36.3%) was lost. Forty-five patients were transfused, (42 AMP/3 soldiers). A total of 23 transfused patients were tracked (48% AMP/100% soldiers). This new procedure has been validated by the technical authorities of the SSA and will be implemented during H2-2009.

Conclusions: The SSA is implementing a new procedure for BP traceability with a target for tracking >95% for 2010.

Keywords: blood products; blood transfusions; traceability
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