



Fresh Frozen Plasma (FFP)

Introduction

Fresh frozen plasma is frequently used inappropriately according to the local statistical data. The indications for transfusing FFP are very limited. When transfused they can have unpredictable adverse effects. The risks of transmitting infection are similar to those of other blood components.

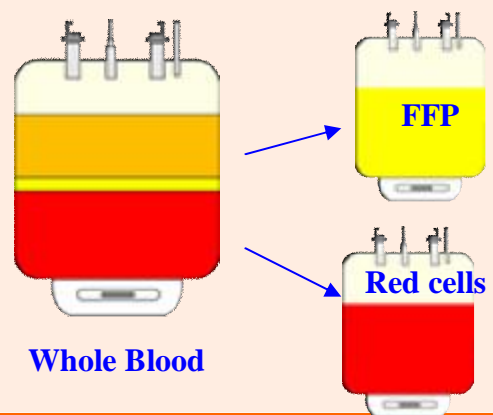
Production of Fresh Frozen Plasma (FFP)

Fresh Frozen Plasma (FFP) is separated and frozen within 18 hours after collection of whole blood. A unit of FFP contains all coagulation factors including approximately 200 units of Factor VIII plus the other labile plasma coagulation factor, Factor V. In Macao, FFP is produced from donations by previously tested male donors, either of whole blood, or by aphaeresis.

Therapeutic Dose:

10-15 mL/kg;

Adult: 2 to 4 units



Indications for FFP

1. Emergency reversal of warfarin therapy for patient undergoing emergency operative procedure or with potentially life-threatening bleeding.
2. Active bleeding/major surgery with PT/PTT more than 1.5 times normal.
3. Microvascular bleeding or massive transfusion and patient's clinical status precludes waiting 30-45 minutes for PT/PTT results.
4. Patients with liver disease-related coagulopathy for certain invasive procedures (percutaneous liver biopsy, paracentesis, thoracentesis) and INR > 2.0.

Recommendation

- I The use of FFP is not considered appropriate in cases of hypovolaemia, plasma exchange procedures or treatment of immunodeficiency states.
- I FFP is not indicated in DIC without bleeding.
- I FFP should never be used to reverse warfarin anticoagulation in the absence of severe bleeding.
- I FFP is not indicated to reverse vitamin K deficiency for neonates or patients in intensive care units.
- I Frozen plasma is NOT indicated for reversal of heparin or low M-W heparin anticoagulation
- I Once used, should be guided by timely tests of coagulation (PT & aPTT or INR).





新鮮冰凍血漿 (FFP)

簡介

根據本地的統計，臨床使用新鮮冰凍血漿，並不能保持合理地使用。

輸注新鮮冰凍血漿的適應症其實是很有限的，同時，還可能發生不可預測的輸血反應，其感染傳染病的風險跟輸用其它血液成分相若。

另一須關注的問題是大部分臨床決定輸注新鮮冰凍血漿與否，並未參考病人的出凝血檢驗(PT、APTT or INR)結果，或輸注 FFP 後並無參考出凝血檢測結果來監測 FFP 輸用的效果。

新鮮冰凍血漿(FFP)的製備

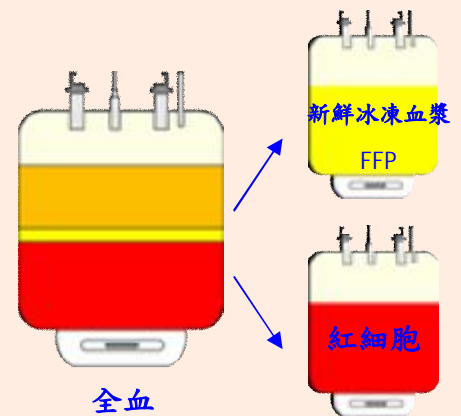
FFP 是指全血收集後於 18 小時內，經分離及冷藏(零下 30°C)製備而成。

每一單位的 FFP 含所有的凝血因子，包括約 200 單位的第 8 因子、第 5 因子及其它血漿凝血因子。

在澳門，為減少輸注 FFP 的副作用，FFP 是由非首次男性捐血者捐獻的全血分離出或單採血漿製備而成。

治療劑量：

10-15 mL/kg；成人：2 至 4 個單位



輸注新鮮冰凍血漿(FFP)的適應症

1. 須緊急糾正因“Warfarin”抗凝治療，同時又急需接受手術治療或嚴重出血的病人。
2. 病人有活動性出血或將施行大型外科手術，同時，伴有 PT/PPT 大于正常值 1.5 倍。
3. 微細血管出血或已接受大量輸血的病人，同時，臨床情況不允許等待 PT/PTT 檢測所需的 30-45 分鐘。
4. 患肝臟疾病的病人，伴出凝血檢驗異常(INR>2.0)，同時，需進行介入性診療措施(經皮肝臟活檢、腹腔穿刺、胸腔穿刺)。

建議

- FFP 不適用於低血容量、血漿置換或免疫缺陷的治療；
- FFP 不適用於 DIC 不伴有出血的病人；
- FFP 絕對不適用於糾正因“Warfarin”抗凝治療而不伴有嚴重出血的情況；
- FFP 不適用於糾正新生兒維他命 K 缺乏或深切治療部的病人；
- FFP 不適用於糾正肝素或低分子肝素的抗凝作用；
- 輸注 FFP 後，必須定時檢測病人的出、凝血狀況(PT、aPTT or INR)，並依之監察輸注 FFP 的效果，以及評估輸注的 FFP 量是否已足夠。

