NAC STATEMENT ON FIBRINOGEN CONCENTRATE

NAC FIBRINOGEN CONCENTRATE UPDATE WORKING GROUP:

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Fibrinogen replacement plays an important role in management of massive bleeding post cardiac surgery, trauma and in obstetrical hemorrhage. However, there is still uncertainty as to the optimal fibrinogen target, product or dose. Fibrinogen concentrate (FC), frozen plasma (FP), and cryoprecipitate are currently used to treat acquired hypofibrinogenemia.

Fibrinogen content of the above mentioned products is as follows (1-3):

1 vial FC =	0.9 – 1.3 g fibrinogen
1000 mL FP =	2.94 +/- 0.63 g fibrinogen (1 SD)
1 unit cryoprecipitate =	0.285 +/- 0.088 g fibrinogen (1 SD)

Optimal dosing of the above mentioned products is affected by:

- The inter-donor variability of fibrinogen content in blood components/products
- Patient's unique clinical situation, including size, amount and rate of bleeding, baseline fibrinogen level, liver synthetic function and a situation-appropriate fibrinogen target.

In a massively bleeding patient, fibrinogen replacement is indicated when fibrinogen level is less than 2.0g/L in obstetrical hemorrhage (4) and less than 1.5g/L for all others (5-7).

Most commonly used initial adult doses are as follows:

FC: 1-4g

FP: 3-4 units (10-15 mL/kg)

Cryoprecipitate: 10 units (1 unit/10 kg)

At this time, there is insufficient evidence of superiority of one product over the others. Until further evidence becomes available, the above products should be considered interchangeable. Decision to use a specific product depends on local availability and resources as well as patients' clinical situation (for example, volume status, history of allergic transfusion reactions, etc.)

In neonates and pediatric patients, it is recommended to consult with the product monograph and a specialist with expertise in managing pediatric/ neonatal coagulopathy prior to administration of fibrinogen concentrates. In published studies (8-10) of acquired hypofibrinogenemia in neonatal or pediatric populations, fibrinogen concentrate dosing has ranged between 30-60 mg/kg.

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