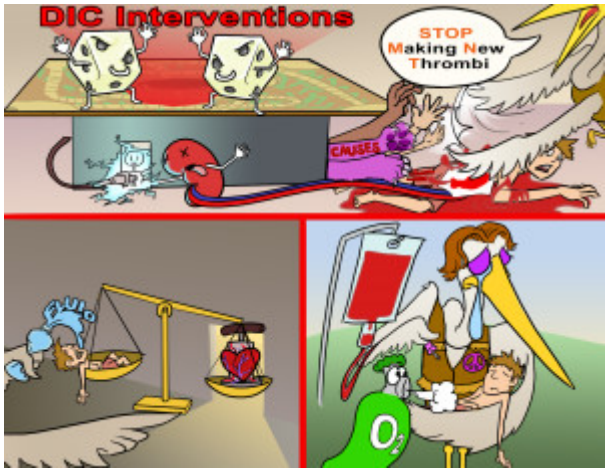
Disseminated Intravascular Coagulation (DIC) Interventions

Disseminated Intravascular Coagulation (DIC) is an abnormal initiation of the clotting cascade due to an underlying disease or event. This results in the formation of a large number of small clots throughout the body. These clots then become trapped in smaller blood vessels, obstructing blood flow. As this condition progresses it consumes clotting factors, fibrinogen, and platelets at a faster rate than the body can produce. Prevention is the best treatment option for DIC. Assessment and quick identification of the at-risk patient is key because of a high mortality rate. Some causes of DIC include any infection of the blood causing sepsis, amniotic fluid or fat emboli, transfusion and transplant reactions, severe burns, and toxins like snake or spider venoms.



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Complications

Risk for Shock

Shocked

If the patient becomes hypovolemic, signs of shock will manifest. This may appear as hypotension and compensatory tachycardia. Assess early and often for signs of shock as it requires immediate intervention.

Renal Failure

Dead Kidney

The kidneys are the most sensitive to hypoperfusion and sustain irreversible damage within 60 minutes of severe hypovolemia. Patients may initially present with decreased or absent urine output.

Interventions

Treat Underlying Cause

Treating Underlying Attacker (S.T.O.P Making New Thrombi)

Prevention is the best treatment for DIC as the disorder has a high mortality rate. Treating the underlying common causes of DIC before DIC occurs should be the goal of patient care. Some causes of DIC include any infection of the blood causing sepsis, blood emboli like amniotic fluid or fat, transfusion and transplant reactions, severe burns, and toxins like snake or spider venoms.

Manage Bleeding

Managing Bleeding

Patients are treated with strict bleeding precautions. The amount of time these patients take to stop bleeding will be prolonged. Apply gentle pressure or cold packs to any oozing site. Assess patients for bleeding like GI and GU often. Other ways to reduce bleeding include using the smallest gauge needle possible, minimizing needle sticks, using only soft bristled toothbrushes, avoid eating hard foods, use only electric razors, and minimizing the number of BP measures taken by blood pressure cuff.

Maintain Fluid and Hemodynamic Balance

Using Fluid to Balance Blood-pump-system

Frequent assessment is key for signs and symptoms of hypovolemic shock including low blood pressure, tachycardia, and dyspnea. For hemodynamic stability, patients are given fluid replacements.

Transfusion

Transfusion-IV

For serious bleeding or hypovolemia in which clotting factors are consumed, patients may be given many things. Platelets are given (PLT), if the platelet count is less than 20,000/uL or less than 50,000/uL while actively bleeding. Fresh frozen plasma (FFP) contains clotting factors to promote clotting. Packed red blood cells pRBC’s and saline solutions are also given in conjunction with other treatments.

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Oxygenation

O2-tank

As hypovolemia often occurs, patients may become hypoxic. Care is aimed at preventing hypoxia, improving the percentage of oxygen inspired via supplemental oxygen, and giving blood products to increase the oxygen carrying capacity of the blood. The treatment method will vary based on the level of hypoxia.

Heparin Drip

Hippie-heron Dripping

Paradoxically, anticoagulation therapy with heparin or low-molecular-weight heparin is used in the treatment of DIC. The benefit to the patient must outweigh the risk for a patient to receive this treatment. For example, heparin would be beneficial to a patient identified as at risk for DIC or in the very early stages of clot formation.

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