

**NURS 821 Advanced
Pathophysiology**

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**Lecture 5 Alterations in
Blood Formation and
Hemostasis**

**Alterations in Blood
● Formation and
Hemostasis**

Part 4 Alterations in Clotting

**● Alterations in
Hemostasis**

Thrombocytopenia

Thrombocytopenia

- Definition
- Classification
 - Primary thrombocytopenia-ITP-autoimmune, after virus or drugs-ages 2-6
 - Secondary thrombocytopenia-decreased production, increased destruction, abnormal pooling
- Pathophysiology
- Clinical manifestations

Thrombocytopenia Etiology

- Decreased platelet production
- Abnormal platelet pooling
- Increased platelet destruction

Hereditary Coagulation Disorders

- Classic hemophilia (Hemophilia A)-x linked recessive; factor VIII deficiency
- Hemophilia B (Christmas Disease)-x linked; factor IX deficiency
- Von Willebrand's disease-autosomal dominant; factor VIII deficiency and defective platelets
- Clinical manifestations vary with severity
 - Mild
 - Moderate
 - Severe

● **Acquired Coagulation Disorders**

Disseminated Intravascular Coagulation (D.I.C.)

- Definition-acquired bleeding disorder due to activation of clotting cascade within circulation
- Pathophysiologyextrinsic path activation due to endothelial damage activates intrinsic path; systemic clotting followed by diffuse fibrinolysis –consumes coagulation factors
- Clinical manifestations-microcirculation microthrombi, systemic bleeding, acrocyanosis, hemolytic anemia

Conditions Associated with DIC

- | | |
|--------------------------|-----------|
| • Obstetric conditions | • Shock |
| • Malignancies | • Trauma |
| • Infections | • Surgery |
| • Hematologic conditions | |

Drugs Which May Decrease Hemostasis

- Those interfering with platelet production or function
 - E.g. alcohol, colchicine, aspirin and salicylates, heparin, lidocaine, NSAIDs, theophylline, etc.
- Those interfering with clotting factors
 - E.g. coumadin, heparin, amiodarone, thyroid meds, anabolic steroids
- Those decreasing Vitamin K levels
 - E.g. antibiotics, clofibrate
