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Acute Immune Thrombocytopenia Purpura

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Introduction

Immun thrombocytopenia purpura (ITP), formerly known as idiopathic thrombocytopenic purpura, is a relatively rare, but potentially life-threatening autoimmune disorder that involves the destruction of platelets by autoreactive antibodies. ITP is defined as any decrease in platelet count below 100,000/mm³.

Pathophysiological Processes

Acute ITP is a complex autoimmune disorder characterized by isolated thrombocytopenia. ITP can involve both increased platelet destruction and decreased platelet production. Platelet destruction is mediated by autoantibodies that bind to the glycoproteins (Gp) IIIa/b, which are surface antigens on platelets. This binding activates the complement system, leading to platelet aggregation and phagocytosis by the reticuloendothelial system. The absence or impairment of this response is impaired in patients with ITP, resulting in an autoimmune response to platelets. The most serious, but very rare, complication of ITP is intracranial hemorrhage (Maher, 2014).

Case Study

A mother brought her previously healthy two-year-old son to his primary care provider with concerns about sudden small scattered bruising to his bilateral leg areas, arm, and trunk, purple freckles to his bilateral upper extremities, and a twenty minute history of upper respiratory infection within three weeks ago to the patient’s mother. The patient’s mother noted improved respiratory infection, normal current medication use, no family history of bleeding disorders or other hematological disease.

On physical exam, the patient was noted to be very active with vital signs within normal limits for age. Temperature 99.9°F, heart rate 114 beats/minute, blood pressure 92/58, respiratory rate 28 breaths/minute, and oxygen saturation of 99% on room air. No bruising was noted, but significant scattered erythemas and petechiae were present to patient’s trunk and bilateral upper and lower extremities. The remainder of the physical exam was normal, specifically no hepatomegaly or splenomegaly, but hepatomegaly was noted (Labarque & Geet, 2014).

A complete blood count (CBC) was obtained and examination of peripheral blood smear was performed (Labarque & Geet, 2014). The patient’s CBC showed a normal blood cell (WBC) count of 6,000/mm³, normal hemoglobin (Hgb) (13.7g/dl), and a decreased platelet count of 17,000/mm³. The history on a routine CBC because signs and symptoms associated with ITP may not be apparent until the platelet count drops below 30,000/mm³.

Acute ITP usually has an abrupt onset of symptoms and can occur in otherwise healthy individuals (Buchanan, 2014). Common signs of ITP are easy bruising, petechiae, prolonged bleeding from cuts or surgery, piles, gastrointestinal bleeding, and mucosal bleeding (Buchanan, 2010). Blood may be present in the urine, nose, mouth, or anus, but this is much less common (Maher, 2014). Intracranial hemorrhage is the most dangerous, but very rare complication of ITP. Individuals with intracranial bleeding may complain of headache, blurry vision, or display a change or loss of more consciousness. Individuals that present with mucosal bleeding are more likely to experience intracranial hemorrhage (Maher, 2014).

Signs and Symptoms

ITP is a diagnosis of exclusion and patients can present with various symptoms. ITP is generally defined by a platelet count of less than 100,000/mm³ (Labarque & Geet, 2014). The thrombocytopenia can be an incidental finding on a routine CBC because signs and symptoms associated with ITP may not be apparent until the platelet count drops below 30,000/mm³.

Nursing Implications

Acute ITP is anriderent that is most often managed by a hematologist. All nursing professionals should be familiar with the disease process because nurses of all levels and specialties may come in contact with this patient throughout their careers (Labarque & Geet, 2014). Patients that present with ITP may often be misdiagnosed with other hematological and oncological disorders, or otherwise healthy children can also occur in young children and adults of all ages. Acute ITP is associated with a sudden onset of symptoms (McPherson, 2014). This does not cause any bleeding that is more related to the risk for bleeding and therefore less likely to develop ITP. Therefore, this disorder is key to avoid the potential complications.

Conclusion

ITP is an autoimmune disorder in which the body attacks its own platelets. ITP occurs in both an acute and chronic form. Acute ITP typically has a worse outcome in children than in otherwise healthy children but can also occur in young children and adults of all ages. Acute ITP is associated with a sudden onset of symptoms (McPherson, 2014). This does not cause any bleeding that is more related to the risk for bleeding and therefore less likely to develop ITP. Therefore, this disorder is key to avoid the potential complications.

References

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