Summer 8-3-2017

Von Willebrand Disease

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Recommended Citation
Miller, Deanna, "Von Willebrand Disease" (2017). Master of Science in Nursing (MSN) Student Scholarship. 221.
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Pathophysiology

- **Signs and symptoms**: Signs and symptoms vary by person depending on the level of von Willebrand factor activity, the classification group VWD that the individual has and age. They may play a role in signs and symptoms to some extent (Leenek, Eikenboom, 2015).

- **Pathogenesis**: VWF is a protein that binds to platelets during the clotting process. It is produced by megakaryocytes in the bone marrow and stored in platelets. When a blood vessel is damaged, VWF helps platelets stick together and form a clot.

- **Significance of Pathophysiolog**: VWF is a large, multi-domain protein that plays a crucial role in hemostasis. It helps to maintain platelet adhesion and aggregation, and plays a key role in the formation of the primary hemostatic plug. VWF also helps to deliver factor VIII to the site of injury, which is essential for blood clotting.

Underlying Pathophysiology

- **Type 1 VWD**: This is the most common type and is caused by a quantitative deficiency of VWF. It results in a decreased ability of the platelet to aggregate and form a clot.

- **Type 2 VWD**: Type 2 VWD is characterized by qualitative deficiencies in VWF. There are several subtypes of Type 2 VWD, each with different manifestations.

- **Type 3 VWD**: This is the most severe form of VWD and is caused by a complete deficiency of VWF. It is characterized by a lack of a functional VWF protein.

- **Consequences of VWD**: VWD is a genetic disorder that affects hemostasis, the process by which the body forms a blood clot to stop bleeding. VWF plays a critical role in this process, and its deficiency can lead to a variety of symptoms, including easy bruising, prolonged bleeding, and increased risk of bleeding complications.

- **Implications of VWD**: VWD is a complex disorder that can have significant implications for affected individuals and their families. It can lead to a variety of symptoms and complications, and may require ongoing monitoring and management by healthcare providers.

- **Prevention of VWD**: There is no known way to prevent VWD, as it is a genetic disorder. However, affected individuals can be identified through genetic testing and can be managed by lifestyle changes and medical interventions.

- **Management of VWD**: Management of VWD involves a combination of lifestyle changes, medical interventions, and sometimes replacement therapy with von Willebrand factor concentrates.

- **Conclusion**: VWD is a complex disorder that requires ongoing monitoring and management by healthcare providers. Early recognition and management can improve outcomes for affected individuals.

References