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A Rare Co-occurrence: Von Willebrand Disease in a Patient with Schizophrenia

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Abstract: Schizophrenia is a severe neuropsychiatric disorder that affects cognitive and emotional functioning, while von Willebrand Disease (vWD) is the most common inherited bleeding disorder caused by a deficiency or dysfunction of von Willebrand Factor (vWF). Although both conditions are well-studied individually, their co-occurrence is exceedingly rare, posing unique diagnostic and therapeutic challenges. This case report describes a patient diagnosed with schizophrenia who also presented with vWD, highlighting the complexities in management due to overlapping clinical manifestations, medication interactions, and the need for a multidisciplinary approach. Potential shared genetic and inflammatory mechanisms are discussed, along with the importance of integrated care to optimize patient outcomes. This case underscores the necessity for heightened awareness and collaboration between psychiatry and hematology to manage such rare coexisting conditions effectively.

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I. INTRODUCTION

Schizophrenia is a chronic and debilitating psychiatric disorder affecting approximately 24 million people worldwide (0.32% of the global population). It is characterized by hallucinations, delusions, disorganized thinking, and cognitive impairment, which significantly impact an individual's ability to function. Despite extensive research, its exact etiology remains multifactorial, involving genetic, neurobiological, and environmental influences.

In contrast, von Willebrand Disease (vWD) is the most prevalent inherited bleeding disorder, affecting around 1% of the global population. It results from a deficiency or dysfunction of von Willebrand factor (vWF), a key glycoprotein involved in platelet adhesion and blood clotting. Clinically, vWD manifests as easy bruising, prolonged bleeding, and excessive menstrual blood loss (menorrhagia), with its severity classified into Type 1 (mild), Type 2 (moderate with qualitative defects), and Type 3 (severe, complete vWF deficiency).

The co-occurrence of schizophrenia and vWD is exceedingly rare, and no direct pathophysiological link has been firmly established. However, emerging research suggests potential genetic and inflammatory associations that may contribute to the overlap between hematological and neuropsychiatric disorders. The simultaneous presence of both conditions complicates clinical management, requiring a multidisciplinary approach to address diagnostic challenges, medication interactions, and treatment modifications.

II. CLINICAL FINDINGS

A. Hematological Manifestations :

- Excessive and prolonged menstrual bleeding (>10 days per cycle)
- Easy bruising and spontaneous bleeding episodes with minimal trauma

B. Coagulation Profile :

- Prolonged Prothrombin Time (PT) and Activated Partial Thromboplastin Time (aPTT)
- Moderate to severe von Willebrand factor deficiency (suggesting Type 2 or Type 3 vWD)

C. Psychiatric Symptoms

- Persistent auditory hallucinations and paranoid delusions
- Cognitive impairment, including poor concentration and memory deficits
- Social withdrawal, apathy, and functional decline
- Lack of insight into her psychiatric condition, leading to poor medication adherence in the past

III. DIAGNOSIS AND TREATMENT APPROACH

A. Psychiatric Management :

- In-patient psychiatric admission due to severe psychotic symptoms
- Initiation of atypical antipsychotic medication
- Risperidone (2 mg/day, titrated to 4 mg/day) based on response and tolerability

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- Supportive cognitive-behavioral therapy (CBT) and psychoeducation for both the patient and her family
- Gradual improvement in hallucinations and delusions over six weeks

B. Hematological Management

- Factor replacement therapy with vWF-containing concentrates for active bleeding episodes
- Desmopressin (DDAVP) was avoided due to the risk of thrombosis in psychiatric patients receiving long-term antipsychotic therapy
- Iron supplementation for secondary anemia due to chronic blood loss
- Close monitoring of coagulation parameters and adjustment of treatment based on bleeding tendencies

IV. DISCUSSION

The co-existence of schizophrenia and vWD is rarely reported, and while no direct causative link has been established, emerging evidence suggests potential genetic and inflammatory mechanisms that may contribute to the interplay between these conditions.

A. Possible Links Between Schizophrenia and VWD :

➢ *Shared Genetic Pathways:*

- Studies have identified chromosomal loci associated with both clotting dysfunction and psychiatric disorders (Lee et al., 2004).

➢ *Neuroinflammation and Endothelial Dysfunction:*

- Schizophrenia has been linked to chronic inflammation and endothelial dysfunction, which may also impact vWF regulation.

➢ *Medication Considerations:*

- Antipsychotics can influence platelet function and coagulation, complicating the management of bleeding disorders.

Given these complexities, managing such patients requires a multidisciplinary team involving psychiatrists, hematologists, and internal medicine specialists to ensure optimal treatment outcomes. Medication interactions must be carefully monitored to prevent adverse effects, particularly those that may exacerbate bleeding risks or worsen psychotic symptoms.

V. CONCLUSION

This case highlights the rare co-occurrence of von Willebrand Disease and schizophrenia, emphasizing the need for integrated, multidisciplinary management. Although no direct link has been established, genetic predisposition, neuroinflammatory processes, and medication interactions may contribute to the interplay between these disorders.

VI. KEY TAKEAWAYS

- Patients with hematological disorders should be screened for psychiatric symptoms, particularly if they exhibit cognitive decline or psychotic features.
- Hematological interventions should be carefully tailored in psychiatric patients to balance bleeding risks and medication side effects.
- Further research is needed to explore the genetic and inflammatory pathways linking psychiatric and hematological conditions.

By recognizing these overlapping clinical aspects, healthcare providers can enhance patient outcomes and improve quality of life for individuals with both psychiatric and hematological conditions.

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