**Severe hemolytic crisis in G6PD deficiency**

**Introduction**

Glucose-6-phosphate dehydrogenase (G6PD) deficiency is a common hereditary enzymatic disorder affecting red blood cells, characterized by reduced activity of the G6PD enzyme essential for protecting cells from oxidative stress in the pentose phosphate pathway. It represents a significant global health issue due to its prevalence and diverse clinical manifestations.

**Case Description**

A 3-year-old boy with known G6PD deficiency presented to the emergency department (ED) with generalized yellowish discoloration and abdominal discomfort for two days following fava bean consumption. In the ED, he appeared lethargic and jaundiced, with vital signs indicating mild hemodynamic instability. Laboratory findings showed severe anemia (Hb 6 g/dL), marked unconjugated hyperbilirubinemia, and no evidence of liver dysfunction. Diagnosis of hemolytic anemia secondary to fava bean-induced oxidative stress was made, necessitating immediate supportive measures including BiPAP and blood transfusion, followed by urgent pediatric referral.

**Discussion**

The clinical spectrum of G6PD deficiency ranges from asymptomatic states to severe acute hemolytic crises triggered by infections, certain foods (such as fava beans), and specific medications. The severity correlates with the type of G6PD variant, some causing significant enzyme deficiency and clinical symptoms, while others manifest milder forms. This case exemplifies an acute hemolytic episode confirmed by characteristic laboratory findings: elevated reticulocyte count, indirect hyperbilirubinemia, and decreased haptoglobin. The temporal association with fava bean ingestion underscores the importance of dietary vigilance and environmental awareness in managing this condition.

**Conclusion**

This case underscores the critical importance of promptly recognizing and managing acute hemolytic crises in G6PD deficiency, particularly in regions where dietary triggers are prevalent. Optimal management involves tailored supportive care, careful medication selection to avoid oxidative stressors, and comprehensive patient education. By highlighting this case, we aim to reinforce the necessity for proactive management strategies that can significantly improve outcomes and quality of life for affected individuals.

**Keywords**

Hemolytic, G6PD, Anemia, Jaundice