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Revealing Silent Polyuria in Pregnancy : from Refractory Hypokalemia and Hypomagnesemia to a Challenging Diagnosis of Diabetes Insipidus

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Case Study : In pregnancy, polyuria is often overlooked, considered part of normal changes. However, our report illustrates a unique case where refractory hypokalemia and silent polyuria, coupled with hypomagnesemia, revealed a rare diagnosis of gestational diabetes insipidus (GDI). A 26-year-old pregnant woman, G2P1A0, was admitted with bilateral lower extremity weakness to the point of immobility and was found to have severe refractory hypokalemia (K: 1.76 mmol/L) along with hypomagnesemia (Mg: 1.0 mmol/L). At the beginning of hospitalization, the patient had refractory hypokalemia despite undergoing several cycles of potassium correction, complicating her clinical management. During her hospitalization, she reported experiencing polyuria of up to 8 liters per day, a symptom she had previously considered a normal aspect of pregnancy. The challenges in diagnosing certain types of diabetes insipidus are compounded by the limitations of available diagnostic tools. Treatment was initiated with oral desmopressin and magnesium hydroxide, which the patient responded positively to. Remarkably, this intervention not only led to the normalization of her potassium and magnesium levels and her urine output was reduced to within expected ranges, but also her mobility improved significantly, regaining the ability to walk. This meticulous management continued successfully throughout her pregnancy, culminating in the delivery without any complications, demonstrating the effectiveness of empirical treatment in managing her condition and ensuring a favorable outcome for both mother and child. GDI disrupts water and electrolyte balance, causing polyuria and electrolyte depletion, with the severe refractory hypokalemia and hypomagnesemia in this case likely secondary to GDI-induced excessive urinary output. This case emphasizes the importance of recognizing GDI in pregnant patients with unexplained electrolyte imbalances and mobility issues, highlighting the necessity for thorough evaluation and customized management.