



The Corner

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17. Rounding the floor: presenting a patient with acute kidney injury

Resident: Claire is a 9-month old baby who was admitted last night to the floor. She presented yesterday to the ED with a 3-day history of vomits, diarrhea and poor oral intake. Her mother also referred an absence of urination in the last 12 hours before the admission. At the ED they found her dehydrated with normal blood pressure and no tachycardia, so they placed an IV peripheral line, they obtained a blood sample and they started her on a rapid intravenous rehydration with saline and glucose. Labwise she had mild metabolic acidosis with low bicarbonate, plasma sodium level of 149 mEq/L, creatinine of 1 mg/dL, and urea of 100 mg/dL. She was admitted to the hospital for intravenous rehydration.

Attending: Does she have any personal or family history of interest?

Resident: No, the child is healthy and so are her parents. She has her vaccinations up to date, she has no allergies and she has never been hospitalised before.

Attending: So how has Claire evolved since yesterday?

Resident: After rehydration she has resumed her urine output this morning and a sample of urine has been collected as well as a new blood test. Her creatinine has decreased to 0.8 mg/dL. The urinary sediment is normal, but the urine is very concentrated and the urinalysis shows a high osmolality, an increased ratio of urine/plasma creatinine and a fractional excretion of sodium less than 1%.

Attending: Can you interpret these lab results?

Resident: She was dehydrated due to the loss of liquid caused by the vomits, diarrhea and poor oral intake. This led to a prerenal acute kidney injury because of hypovolemia and low kidney perfusion which has manifested by oligoanuria, an increase in the creatinine serum level and signs of a normal tubular function.

Attending: Very well, so what is your plan with her now?

Resident: First she has to be continued on IV fluids until the kidney function normalises and we confirm a normal urine output. Once she stops vomiting and her liquid oral intake is adequate to maintain a good hydration she can be discharged safely.

Attending: And what would you give her if she has a fever now?

Resident: Clearly not ibuprofen because it could worsen the kidney function. Instead we could give her acetaminophen or metamizole.

Attending: I agree. So let's take a look at her.

KEY WORDS

Acute kidney injury: daño/fracaso renal agudo.

Urination: micción.

Blood sample: muestra de sangre.

Rapid intravenous rehydration: rehidratación intravenosa rápida.

Metabolic acidosis: acidosis metabólica.

Plasma sodium level: nivel plasmático de sodio.

Resume urine output: reinicia diuresis.

Urinalysis: análisis de orina.

Fractional excretion of sodium: excreción fraccional de sodio.

Lab results: resultados de laboratorio.

Kidney function: función renal.



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