ARGINASE DEFICIENCY PRESENTING SECONDARY TO COVID-19 INFECTION

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Introduction
Arginase Deficiency
• Caused by decreased arginase enzyme activity from the Urea cycle
• Usually presents as a patient with normal birth and childhood and later starts to have slowing of linear growth and neurodevelopmental consequences
• Episodic hyperammonemia can occur but is rarely severe enough to be life-threatening

Laboratory findings

- Confirmed ammonia at 2403 umol/L
- pH at 7.07
- Hypoglycemia with glucose stick at 42 mg/dL
- Started on emergent dialysis and obtained Metabolic Labs

Clinical Course

- Head CT done on day of arrival demonstrated diffuse cerebral edema and concerning for global hypoxic brain injury
- Patient’s Neurological status remained poor regardless of improving laboratory values
- Brain death declared after 2 exams.

Metabolic work-up

- Plasma Carnitine Profile – Slight increase of esterified/free ratio, possibly associated with illness/diet
- Metabolic Labs – Normal

Discussion
• Arginase deficiency usually does not present with life-threatening hyperammonemia events in infancy period.
• This is a rare presentation of Arginase deficiency that was unmasked by a COVID-19 infection
• This is important as we do not have much information of the effects of COVID-19 on patients with Inborn Errors of Metabolism

References: