An unexpected post-natal collapse

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A term, DCDA infant had an unexpected cardiovascular collapse on day 3 of life on the postnatal ward. The pregnancy had been uneventful and the parents were non-consanguineous. There had been 11% weight loss noted on the day of the collapse, she was breast fed. After resuscitation she was admitted to the neonatal unit (NNU) and found to be in ventricular tachycardia (VT). Her electrolytes were deranged with a glucose of 0.8 an ionised calcium of 0.45 and a potassium of 7.23. She was treated with IV calcium gluconate, IV dextrose and sodium bicarbonate, and she converted back to sinus rhythm. The VT returned so magnesium sulphate was given, which terminated the VT. VT in neonates is uncommon and mostly seen in patients with congenital heart disease, and cardiac channelopathies. A metabolic screen taken at the time of the collapse revealed raised octanoylcarnitines and a diagnosis of MCADD was made. There are few case reports of babies with MCADD presenting with arrhythmias. They are a recognized feature of longer change fatty acid disorders and there is evidence demonstrating cardiac myocyte ion channel dysfunction in these conditions. This case adds to the small number of patients with MCASS who present with VT. It serves as a reminder to consider metabolic diseases in the setting of multiple electrolyte abnormalities and arrhythmia. It also highlights the importance of correcting any metabolite disturbance in patients with arrhythmias before considering anti-arrythmic agents, as they can be pro-arrythmogenic and may worsen the situation.

Biography
Caroline Fraser is a Paediatric Trainee in the West Yorkshire region of England. She is an ST3 and hopes to pursue a career in Neonatal Medicine. She graduated from the University of Bristol in 2012 and has been working in West Yorkshire since.

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