volume in one second (ppFEV1) and a number of potentially influencing factors.

Methods We conducted a retrospective review of all children with CF who were started on LUM/IVA treatment between September 2016 and August 2017 in our institution. Data was collected from patient charts, electronic laboratory and radiology records. CT Thorax images were reviewed for evidence of air trapping using the Brody score.[3] Descriptive and statistical analyses were performed using SPSS.

Results Data was collected from 15 children with CF who were started on LUM/IVA treatment. The mean (±SD) age of starting treatment was 14 years (±1.7 years), with a mean weight of 47.3 kg (±8.9 kg) and male-to-female ratio of 9:6. Ninety-three percent of patients experienced an acute decline in ppFEV1 post initiation of LUM/IVA, with an absolute mean decline of -10.8% (0–20%). There is a statistically significant inverse relationship between absolute change in ppFEV1 (FEV1) and baseline ppFEV1. There is no correlation between FEV1 and weight, gender or air trapping score.

Conclusion Our results suggest that a LUM/IVA related decline in lung function is more significant in CF children with higher baseline ppFEV1. This offers reassurance when initiating LUM/IVA as the patients who experience significant declines have a greater respiratory reserve with which to support this reduction.

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P052 SHOULD MEASUREMENT OF ASCORBIC ACID BECOME ROUTINE IN THE MANAGEMENT OF PATIENTS ON HOME PARENTERAL NUTRITION?

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Aim To assess if routine monitoring of vitamin C in long term parenteral nutrition (PN) patients should be routinely carried out, following a case report of a child with clinical vitamin C deficiency.

Methods Vitamin C is an essential water soluble nutrient that cannot be synthesised or stored by humans.[1] It is a potent antioxidant with anti-inflammatory and immune- supportive roles,[1] Vitamin C levels are depleted in critically ill patients, those with restricted diets, smokers, and those with severe digestive disorders. The stability of micronutrients in PN bags is assumed but rarely confirmed, although a decrease in vitamin C content has been observed when there is a long delay between preparation and packaging.[2] The patient, a five year old child stable on long term established full PN presented with a one month gradual reduction in mobility, refusal to weight bear, intermittent temperatures, raised CRP and asymptomatic hypercalcaemia on routine bloods. Investigations included bone profile, vitamin D, and parathyroid hormone levels, and routine sepsis screening. Following the extensive work up for systemic disorders and multiple conversations with orthopaedic and radiology specialists, it was discovered that the patient had bilateral metaphyseal irregularities, which were felt to be in keeping with recognised radiological appearances seen in severe vitamin C deficiency. As a result of this her PN bags were made manufactured and analysed in house quality control laboratory using a method involving UV –vis spectrophotometer to analyse the rate of oxidative decomposition of vitamin C within the bags.

Results In the United Kingdom children on long term PN programmes are routinely monitored for selected micronutrient deficiency, but not routinely vitamin C. The vitamin C was increased in the PN to three times the baseline dose for this patient, and a dramatic improvement in the patients symptoms were observed within 5 days, and radiological improvement was noted within 6 weeks after commencing treatment. Unfortunately baseline vitamin C levels were not obtained prior to starting treatment, but levels one month later still showed a significant clinical deficiency. The test bags that were analysed within the laboratory showed that on manufacture the bags contained 48.34 mg/L of ascorbic acid, but by 48 hours this had decreased to 8.5 mg/L.

Conclusion Vitamin C in PN is at significant risk of degradation by oxidation. Awareness of signs and symptoms of micronutrient deficiency and vigilance of micronutrient deficiencies not routinely measured in children on parenteral nutrition is important. Also more research is required into the oxidation rate of vitamin C in PN to establish how much is required within the PN bag to ensure the recommended daily intake in a PN dependent patient.

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