Scurvy during Home Parenteral Nutrition

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Introduction Degradation of ascorbic acid due to oxygen presence in parenteral nutrition (PN) is well documented.1 Although patients on home parenteral nutrition (HPN) are routinely monitored for some vitamin deficiencies, plasma vitamin C is rarely measured in this population.

We report a case of clinical vitamin C deficiency in a patient with severe dysmotility for whom the only source of nutrition was parenteral nutrition with continuous infusion over 24 hours.

Methods A 6 years old girl with severe gastrointestinal dysmotility following a fundoplication tolerated no enteral feed and could not have time off PN due to hypoglycaemic episodes. She presented with gingival bleeding and epistaxis and was treated with IV vitamin K. An x-ray of her wrist and shoulder showed osteopenia but no other abnormalities. Vitamin C measurement was requested.

Results Plasma vitamin C was low at 3.5 micromol/L (26.1–84.6) which confirmed the diagnosis of scurvy. She was therefore commenced on ascorbic acid and given over 12 hours. In both cases the result was within the reference range at 58.7 and 38 micromol/L respectively. Published literature 2 suggests that temperature affects vitamin C degradation, as has been shown with enteral feed. 3 From these cases we concluded that measurement of vitamin C during HPN would be indicated not only if there were suggestive symptoms, but should also be added in to routine monitoring in any patient with a 24 hour infusion time and extremely restricted enteral intake.

References