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Administration of Intravenous Iron Sucrose and the Development of Porphyria Cutanea Tarda in a Hemodialysis Patient: A Case Study

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Porphyria cutanea tarda (PCT) is the most common form of porphyria across the world, with a prevalence of one case in approximately every 10,000 people. Unlike other forms of porphyria, which are inborn errors of metabolism, PCT is usually an acquired liver disease caused by exogenous factors such as iron overload. End stage renal disease (ESRD) patients on hemodialysis have functional iron deficiency requiring aggressive iron supplementation to maintain their hemoglobin within the target range. In this report we describe a 52 year old Caucasian female who developed PCT during the course of hemodialysis due to the administration of intravenous iron sucrose. The patient developed ESRD from hypertension and has been on hemodialysis for 2 years at an outpatient clinic. During the summer months the patient developed a pruritic rash which affected the dorsum of her hands, her arms, and her face. The lesions took the form of small hyper pigmented blisters. Initially it was thought to be related to recent initiation of omeprazole for gastroesophageal reflux symptoms. However the rash failed to resolve and she was referred to dermatology for a skin biopsy. Skin biopsy with immunofluorescence as well as plasma concentrations of porphyrins and uroporphyrinogen confirmed the diagnosis of PCT. The patient is currently being treated with therapeutic phlebotomy every two weeks until serum iron levels are depleted to 50mcg/dL. Other interventions include the cessation of smoking, abstaining from alcohol use, and avoidance of the sun. In this case there appears to be a definite link between intravenous iron sucrose administration and the development of PCT. Since pruritic rashes are common in dialysis patients and because of the ever increasing use of intravenous iron, this condition could be easily overlooked and probably underdiagnosed.

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