[ID-P#133] Membranous Nephropathy Following Cutaneous Exposure To Inorganic Mercury Containing Fairness Creams: A Report Of Two Cases

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Background: Glomerulonephritis is known to be one of the multiple clinical manifestations of Chronic inorganic mercury poisoning through ingestion. Glomerulonephritis has recently been reported due to cutaneous exposure to inorganic mercury in unregulated fairness creams. In this report, we describe two patients who had Nephrotic syndrome with biopsy showing membranous nephropathy, secondary to inorganic mercury poisoning from topical fairness cream application.

Case Description: The first patient is a 15-year- old female student who was evaluated at another center initially for concerns of pedal oedema, facial puffiness, and frothy urine. Investigations confirmed the diagnosis of a Nephrotic syndrome and renal biopsy revealed membranous nephropathy; with immunostaining for PLA2R negative and NELL-1 positive. Her clinical condition failed to improve despite the use of angiotensin-converting enzyme inhibitors and immunomodulation and she presented to our hospital. Evaluation for secondary causes in the Paediatric Nephrology Clinic, revealed elevated whole blood mercury and she was referred to Clinical Toxicology unit. A detailed history identified an unregulated fairness cream as the possible source, which was confirmed by chemical analysis. Chelation therapy with DMSA resulted in clinical imporvement The second patient, a 29-year-old lady, presented with oral erosions, skin rashes, behavioral changes, and systemic hypertension and had laboratory features of Nephrotic syndrome. Her 24-hour urine mercury levels were elevated, and she received chelation therapy with DMSA, after which she showed symptomatic improvement. Exposure source could not be identified. However, she had relapse of symptoms few months later, with Nephrotic range proteinuria and worsening of Mercury levels. A thorough search for the source confirmed a topicalcream to be the exposure source. She received further chelation after elimination of exposure and showed clinical improvement.

Conclusions: These cases highlight a unique exposure source and unique manifestation of inorganic mercury toxicity. There is an urgent need for regulatory reforms of fairness products in the country.