



TRANSFORMING TOXICOLOGY LANDSCAPE FOR SAFER AND SUSTAINABLE TOMORROW

POSTER PRESENTATIONS

[ID-P#147] Failing Kidneys & Ailing Bones: A Case Report Of Chronic Occupational Cadmium Toxicity In A Goldsmith

Mohan Jambugulam, Amith Balachandran, Krupa George, Annie Florence Stephy and Ravikar Ralph

Poison Control Center, Department of Medicine, Christian Medical College Vellore, India

Background: There are several unorganised occupational sectors in India which are poorly regulated and leads to unique occupational exposures. Individuals involved in gold refining, purification and ornament making are often exposed to may heavy metals including Cadmium. We describe a case report of a goldsmith who presented with chronic Cadmium toxicity, likely secondary to occupational exposure.

Case Description: A 61 year old silversmith presented for evaluation of for multiple bone pains and renal dysfunction on preliminary blood tests done elsewhere. On Further workup, patient was found to have sub nephrotic range proteinuria, phosphaturia, hypophosphatemia, hypokalaemia and hypomagnesemia, all suggesting tubular dysfunction. His FGF 23 and Vitamin D levels were normal. Dual- energy X-ray absorptiometry revealed low bone mineral density, likely due to hypophosphatemia rickets. In view of the strong history suggesting occupational exposure to Cadmium, chronic Cadmium toxicity was considered. Whole blood and urine cadmium levels were elevated. His Bone scan showed Metabolic bone disease with multiple rib fractures & pseudo fractures of vertebra. Nature of the disease & the need for source control was explained and he was initiated on neutral phosphate, Magnesium and calcium supplements. On follow- up, the patient reported significant reduction in severity of symptoms after retirement from work and adequate supplementation.

Conclusions: Goldsmiths are exposed to Cadmium which can result in renal tubular damage and hypophosphatemic osteomalacia. The case highlights the importance of healthcare workers being aware of common toxic exposures that different occupations predispose to. A detailed occupational history is paramount. Working environment and occupational safety awareness needs to be improved to decrease the burden of occupational diseases.