

Fanconi Syndrome and Emphysematous Lung after Chronic Cadmium Intoxication

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Abstract

Cadmium, a metal used for a variety of industrial purposes, may cause acute and chronic toxicological intoxications. Chronic toxicity usually presents with renal impairment (proteinuria), although effects on bone and lung are also reported.

We report a case of 73 year old Thai female who developed Fanconi syndrome and emphysematous lung 30 years after exposure cadmium. The patient has underlying disease of type 2 diabetes mellitus (DM) and essential hypertension. The patient worked as a painter of lacquer tray factory for 30 years. She mixed the paint with bare hands then sprayed the mixture onto products. She did not use gloves or other forms of respiratory protection but dust masks occasionally. Ten years after her retiring from work, she developed chronic cough and progressive dyspnea. Her pulmonary function test demonstrated mild irreversible obstruction. She was diagnosed pneumoconiosis with obstructive lung disease. Despite her good glycemic and blood pressure control, she developed proteinuria and glycosuria. Clinical chemistry revealed impaired glomerular filtration, hypokalemia, hypophosphatemia and metabolic acidosis. Her urine cadmium was 73.8 microgram per gram creatinine. Consequently, she was diagnosed with Fanconi syndrome secondary to cadmium. However, chelation was not performed due to poor benefit in relative to harms.

This is a confirmed case of occupational cadmium poisoning with emphysematous lung and Fanconi syndrome. The best way of treatment is prevention of cadmium exposure because of ineffectiveness of chelation and long half-life of cadmium

Objective: To report a case of occupational cadmium poisoning

Methods: Case report

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Results: Occupational cadmium poisoning can cause emphysematous lung and Fanconi syndrome

Conclusions: Chronic cadmium toxicity usually presents with renal impairment (proteinuria) that can progress to Fanconi syndrome, although effects on lung are also reported.
