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A new challenge: Assessment of metal prosthesis intoxication

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Cobalt intoxication has become more frequent due to the wide use of metal cobalt hip implants (MCHI). Only a few patients have systemic symptoms of poisoning. Toxic blood cobalt concentration may be accompanied by hypothyroidism, polyneuropathy, impairment of cranial nerves and cardiomyopathy. A 60 year old woman underwent total hip prosthesis containing cobalt, three years ago. She had no symptoms, but a blood cobalt routine assessment shows an increase of metal level to 3.2 µg/l (population non exposed <0.6 µg/l). Three months later, result obtained was 4.64 µg/l. During the next quarter, the level reached to 8.29 µg/l. It is known that cobalt level assessment concerning a population of patients with cobalt MCHI is around 7 µg/l. The treatment could consist of removal of the prosthesis to avoid cobalt poisoning, in relationship with deterioration of the metal femoral head by overlooked particles of the head. It seems important to know that the metal particles spread by lymphatic circulation may continue to release ions even though the source of wear had been removed. Consequently, it can be discussed in patients with normal kidney function to add chelation therapy.

Biography

Frederic J Deschamps is Medical Doctor. He obtained PhD in Occupational Toxicology in 1993. He was nominated Professor of Medicine in 2002. He has improved for the last 20 years the Department of Occupational Diseases of the University Hospital of Reims (Champagne County). He has been managing the Regional Institute of Occupational Health from 1995. He belongs to the French National University College of Occupational Researchers and Practitioners. He has focused his work on occupational infectious diseases and health effects of low doses toxics with long term exposure.

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