

Severe cobalt poisoning in endoprosthetic replacement of the hip

Biology of Metals – Mai 2008

Wolfram Steens, Alexander Katzer

Among clinical features and treatment options in chronic cobalt poisoning we are reporting on a case in which metallosis caused by a ceramic/metal articular pairing led to almost complete loss of sight and hearing after revision of a total hip prosthesis. At primary revision the firmly incorporated stem was left in place. For a better offset only the head was exchanged from a ceramic to a metal model which articulated with a socket containing a ceramic inlay. Postoperatively, movement of the hip joint became increasingly uncomfortable and painful. After 2 years, the patient started complaining about increasing impairment of his eyesight followed by a gradual loss of hearing. A second revision showed almost complete deterioration of the metal femoral head and a partially fractured ceramic inlay with extensive contamination of the bone and surrounding soft tissue by metal débris. At the time of revision increasing concentrations of the alloy element cobalt was measured in the serum and liquor remarkably high. Several treatment options in cases with chronic cobalt poisoning have been described, chelation therapy with calcium versenate (EDTA) or British Anti Lewisite (BAL)/Dimercaptopropansulfonat (DMPS) being only 2 of them.