Medical Xpress

Cobalt intoxication diagnosed with the help of Dr. House

February 6 2014

Metal hip prosthesis is causing cobalt intoxication. The metal head with hole was removed due to severe metal loss. Credit: © *The Lancet* / Juergen Schaefer

In today's edition of *The Lancet* doctors report the case of a patient with severe heart failure, who in May 2012 was referred to the Marburg University clinic in Germany.

Medical examinations ruled out coronary artery disease, a common cause of heart failure, but the medics working on the case noticed some striking similarities between the patient's symptoms and those of a fictional patient in the TV Series House [1], ultimately diagnosed by lead

character Gregory House, M.D. (played by British actor Hugh Laurie) as cobalt poisoning caused by debris from a metal hip replacement.

The medical history of the real-life patient showed that in November 2010, he had undergone a metal-on-plastic hip replacement to replace a broken ceramic-on-ceramic hip prosthesis. Half a year later the patient suffered from various symptoms, such as hypothyroidism, oesophagitis, fever of unknown origin, increasing deafness and loss of sight, and finally severe heart failure.

For more than a year, and after numerous hospital visits, the true cause of all these symptoms remained unclear. Finally, the patient was referred to Marburg where the doctors concluded that, like Dr House's fictional patient, their patient was suffering from Cobalt poisoning. The patient was referred back to his former orthopaedic clinic, where he received a new ceramic hip prosthesis, and thereafter his heart function improved and he experienced no new episodes of fever or acid reflux.

Dr Juergen R. Schaefer, lead author of the case report and director of the Center for Undiagnosed Diseases in Marburg, offers a medical lecture entitled 'Dr. House revisited – or: would we have saved the patient in Marburg as well?'. In this lecture, he uses the TV series House to teach medical students to diagnose rare diseases, and has been referred to in the media as 'the German Dr House'.

According to Professor Schaefer, "Cobalt intoxication has been a well-known cause of cardiomyopathy for over fifty years, but primarily in the context of steel workers exposed to the metal industrially, or in cases of food or drink contaminated by cobalt. Numerous studies have investigated metal exposure due to hip replacements, but in certain situations – where the placement has gone wrong, where there are technical problems with the prosthesis, and strikingly often after an off-label replacement of broken ceramic hips by metal parts – patients are at

risk of cobalt poisoning due to hip prosthesis, a problem which appears to be on the increase, and which can be life-threatening."

More information: [1] 'House M.D.", season 7, episode 11: "Family Practice"; original air date in the USA: February 7, 2011. For more information, see www.imdb.com/title/tt1726372/

Paper: www.thelancet.com/journals/lan … (14)60037-4/abstract

Provided by Lancet