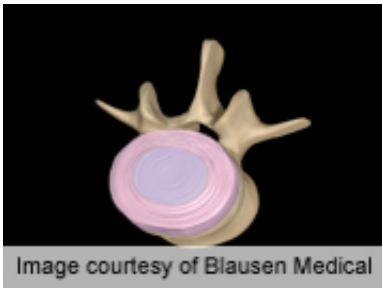


Increased serum metal levels after lumbar disc replacement

December 22 2012



Serum metal levels of cobalt and chromium are elevated at all postoperative time points up to 36 months following metal-on-metal lumbar disc replacement, according to research published in the November issue of the *European Spine Journal*.

(HealthDay)—Serum metal levels of cobalt and chromium are elevated at all postoperative time points up to 36 months following metal-on-metal lumbar disc replacement, according to research published in the November issue of the *European Spine Journal*.

Matthew F. Gornet, M.D., of the Spine Research Center in St. Louis, and colleagues conducted a prospective, longitudinal study to measure serum chromium and cobalt levels in 24 patients with cobalt-chromium alloy metal-on-metal lumbar disc replacements.

Using high-resolution inductively-coupled plasma-mass spectrometry, the researchers found that the medium serum cobalt levels were 0.10

ng/mL preoperatively, and 1.03, 0.96, 0.98, 0.67, and 0.52 ng/mL, respectively, at three, six, 12, 24, and 36 months postoperatively. The median preoperative chromium level was 0.06 ng/mL, and postoperative levels were 0.49, 0.65, 0.43, 0.52, and 0.50 ng/mL, respectively.

"Despite continuing concerns about the biologic consequences of metal release, there are currently no reliable threshold values for the toxicity of systemic, circulating metal debris following implantation of articulating [orthopedic implants](#). As such, the [clinical implications](#) of elevated local tissue and systemic ionic concentrations are uncertain," the authors write. "[Clinical judgment](#), after assessing the overall risk-benefit vis-a-vis indications, patient selection, and the appropriateness of a particular implant, will determine the final treatment plan for each individual patient."

Several authors disclosed financial ties to pharmaceutical and medical technology companies, including [Medtronic](#), which funded the study.

More information: [Abstract](#)
[Full Text](#)

Copyright © 2012 [HealthDay](#). All rights reserved.

Citation: Increased serum metal levels after lumbar disc replacement (2012, December 22)
retrieved 4 May 2024 from
<https://medicalxpress.com/news/2012-12-serum-metal-lumbar-disc.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
