



Letter to the Editor

Letter response: Prevalence of subclinical cardiac abnormalities in patients with metal-on-metal hip replacements



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We are pleased to answer the questions from Zhang et al. We included two subject groups: those with plasma cobalt levels $\geq 7 \mu\text{g/L}$, as recommended by MHRA [1], and consecutive patients with cobalt $\leq 7 \mu\text{g/L}$ recruited from the clinic, divided into those with low and mid-range cobalt levels. These subjects may not represent the MOM population, but baseline characteristics were similar between groups.

Our study was not designed to study gender differences in the prevalence of complications, but to assess cardiac function in relation to exposure to cobalt.

Recruitment of otherwise-well non-MOM hip patients many years post-operatively is challenging. Since heavy metal toxicity has never been reported with non-MOM prostheses, it is reasonable to use standard hip replacement subjects as a control group, regardless of implant duration. We investigated the relationship of prosthesis duration with cobalt levels in the MOM group, not as a comparison with controls.

Whilst different hip prosthesis subtypes have differing tendency towards joint dysfunction, our aim was to correlate cobalt levels derived from MOM prostheses with markers of cardiac size and function. 15 subjects were aged under 60 years: eight in the first tertile (T1), four in T2, one in T3 two control subjects ($p = 0.06$, and 0.02 excluding controls), suggesting that elevated cobalt levels are less likely in young patients. This may relate to declining eGFR with age, consistent with our finding that eGFR correlates negatively with plasma cobalt

2]. We investigated the association of BMI with cobalt levels and found no relationship ($p = 0.43$).

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Conflict of interest

The authors declare financial support as stated above. No other conflict of interest declared.

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¹ This author takes responsibility for all aspects of the reliability and freedom from bias of the data presented and their discussed interpretation.