

Correspondence

Massive exposition to titanium, but without sensitization

Sir—A brief case report (Bonde et al. 1995) described massive staining of tissues with black titanium debris. The patient was skin-tested for titanium sensitization using a titanium oxide patch test. No skin sensitivity was found. We do not feel that the report of a single case with black pigmentation of the tissues is sufficient to counter our previous observations that a few patients seem to be contact-sensitized to titanium. No histological study is provided in the paper in which T-cell subsets and macrophages were characterized and only one titanium salt was used for skin testing. No eczema would necessarily be expected in titanium sensitization, since the patient has no skin-contact with the material. Our point has always been not that all patients with metallosis and titanium develop titanium sensitivity but there may be a small pool of patients who can become sensitized to this metal. We have ourselves seen a very large number of cases with titanium debris in the tissues, but no evidence that it causes sensitization in these particular individuals. Our further work has shown that T-lymphocytes are present where there is titanium debris and further work in progress continues to support the idea that a few patients may become sensitized.

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Sir—The purpose of our case report was not only to stress the importance of detecting radiographic signs of disassembly of modular acetabular components but also emphasized that the experience of allergy testing with titanium is limited.

Inspired by the statement by Scales (1991) that titanium liberated by wear is available only as titanium oxide, we wished to mention titanium oxide as a testing agent of particular interest. Thus, we fully agree with Revell and Lalor that our case report, not including any histological study in which T-cell subsets and macrophages were characterized, does not counter the observations in the study by Lalor et al. (1991).

We also agree that testing with titanium oxide alone is too limited. Thus we believe that the approach to testing in future patients, particularly if skin symptoms are present, could consist of testing with a wide variety of titanium salts, including titanium oxide and, possibly, intradermal testing.

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References

- Bonde H V, Vejstrup E, Johansen T. Massive exposition to titanium, but without sensitization. A case report of an overlooked disassembly of a modular acetabular component. *Acta Orthop Scand* 1995; 66 (2): 174–5.
- Lalor P A, Revell P E, Gray A B, Wright S, Railton G T, Freeman M A R. Sensitivity to titanium. *J Bone Joint Surg (Br)* 1991; 73: 25–8.
- Scales J T. Black staining around titanium alloy prostheses—an orthopaedic enigma (Editorial). *J Bone Joint Surg (Br)* 1991; 73: 25–8.