LETTER TO THE EDITOR

Accepted: 9 May 2000

Dear Sir,

We found the paper entitled “Ceramic femoral head fracture in total hip replacement” [1] interesting because it focused attention on a problem that we have previously analyzed [2]. However, some factors should be taken into consideration: firstly, we have demonstrated that the most important aspects of ceramic ball fracture are the characteristics of the material used, in particular the ceramic grain size, which must be very fine, and the homogeneity of its distribution. Those parameters influence the static and the fatigue mechanical properties of ceramics.

G. Maccauro (✉)
Istituto di Ortopedia,
Universita Cattolica del Sacro Cuore di Roma, Rome, Italy

C. Piconi
Dipartimento Innovazione Nuovi Materiali,
ENEA CASACCIA, Rome, Italy

In any case it is the coupling between ceramic and metallic taper, and eventually between ceramic and ceramic, which is crucial, more than between ceramic and polyethylene or any other component of the prosthesis. Taking these factors into account we do not recommend application of a new ceramic ball head onto an unrevised stem, as the possible damage to the taper may lead to new cracks in the ceramic, and then to a new fracture. Nevertheless, some authors, according to Sedel [3], have reported a 6-year survival rate for new ceramic ball heads on the old tapers.

References

1. Arena A (1999) Ceramic femoral head fracture in total hip replacement. *Int Orthop* 23:351-352
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3. Sedel L (1999) Revision strategy for ceramic implant failures. In: Sedel L, Willmann G (eds) *Reliability and long term results of ceramics in orthopaedics*. Thieme, Stuttgart, p 75