Reviewer's report

**Title:** Radiological features do not predict failure of two-stage arthroplasty for prosthetic joint infection: a retrospective case-control study

**Version:** 2  **Date:** 18 March 2014

**Reviewer:** Peter Helwig

**Reviewer's report:**

The authors provide data regarding radiological features to predict failure in two stage revision arthroplasty for PJI. This is a relevant question in the field of PJI. PJI is a serious event compromising the the patients. Unfortunately the authors study population is small and nothing is known about the causing germs of the PJI. Since we know for long that germs building biofilms are more difficult to treat especially since in this study population no Rifampicin was used, what according to the work of Zimmerli and Trampuzs should be conducted. The study population could be for example very heterogenous and therefore no effect could retrieved, the Kappa for cement what is very crucial for biofilm germs was only .6

To know for real if remaining cement ist a predictor of failure one has to perform a CT scan.

All of this is not in the study done and due to the retrospective study design is not possible anymore.

In conclusion I suggest to reject this paper.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.