Long Term Follow-Up of Primary Total Hip Arthroplasty Cemented With Boneloc®

Background and purpose:

The Boneloc® cement was developed in Denmark with the advantages of reducing the injurious biological effects occurring during and after cementation of joint implants as well as minimizing operation room personnel to exposure from toxic vapors by its innovative mixing and delivery system. The longest follow-up of joint implants cemented with Boneloc® is, as far as we know, less than 9 years. The purpose of this study is to make a long term follow up of this patient group.

Patients and methods:

112 primary total hip arthroplasties (THAs) were introduced into 106 patients (38 men represented by 39 THAs) using Boneloc® cement (Polymers Reconstructive A/S, Farum, Denmark). The THAs type was Exeter® (Low-friction polished stem from Stryker). Surgery was performed using the anterolateral approach to the hip, and inside closed flow-operating theaters. Mean age at surgery 74,9 years (range 60-90).

Data was collected from patient files, x-ray recordings and from The National Arthroplasty Register.

We defined radiological signs of loosening as osteolysis on ≥2 zones for the cup, and / or subsidence of the stem more than the length of the centralizer and / or fracture of the cement.

Survival time of the prosthesis was defined as the time from operation to revision. Kaplan-Meyer Survival curve was obtained using Stata 12.1 (Stata Corp. Texas, USA).

Results:

22 patients were alive at the end of the study. 22 hips were revised (6 hips were revised totally, the rest of the revisions included only the cups). All revisions were done due to aseptic loosening. No patients were revised due to infection. Revision rate 19,5 %.

For patients who were not revised, we found 13 patients who fulfilled the above mentioned criteria for radiological loosening. Furthermore we found one patient with signs of loosening of stem on bone scintigraphy. These findings and the component concerned are listed in table 1-1.

Kaplan Meier survival curve was accomplished on all revisions, and was done for cups and for total revisions Figure 1-1.

Conclusions:

The results show that primary THA Exeter®-prosthesis cemented with Boneloc® are acceptable at the long term. The stem however is doing much better than the cup.

No revisions were done due to infection.

No conflict of interest.

Table 1-1 Hips with radiological loosening that are not revised

<table>
<thead>
<tr>
<th>Radiological loose component</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cup</td>
<td>9</td>
</tr>
<tr>
<td>Stem</td>
<td>4</td>
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