Arthroscopic management of septic arthritis of the adult hip

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INTRODUCTION
Septic arthritis is a rare differential diagnosis of acute hip pain in adults. Early diagnosis and surgical treatment are mandatory to preserve the joint and prevent progressive joint destruction. Open surgery is the most established surgical procedure in adults. Inspired by the success of arthroscopy in paediatric patients, since 2007 we seek arthroscopic treatment also for adults.

PATIENTS
9 patients were identified from the admission records (2007 to 2011). 3 patients (one bilateral infection) showed advanced joint destruction due to delayed presentation (average 22 days) and were treated by two-step THA. 5 patients (Table 1) (average age 44 years) presented with acute hip pain (average 2.8 days) and elevated WBC and CRP counts. Diagnosis was confirmed by joint aspiration where a white cell count of more than 25,000 cells per cubic millimeter joint fluid indicated septic arthritis.

All patients were reexamined at final follow up. Standard radiographs confirmed a well-preserved joint. Advanced osteochondral lesions as well as extraarticular abscess formations were excluded by MRI.

Table 1. Patient data

<table>
<thead>
<tr>
<th>#</th>
<th>Age (y)</th>
<th>Sex</th>
<th>FU (m)</th>
<th>Symptoms (days)</th>
<th>WBC /nl</th>
<th>CRP mg/dl</th>
<th>Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26</td>
<td>m</td>
<td>38</td>
<td>2</td>
<td>14,8</td>
<td>1,5</td>
<td>No growth</td>
</tr>
<tr>
<td>2</td>
<td>63</td>
<td>m</td>
<td>8</td>
<td>2</td>
<td>10,9</td>
<td>31,3</td>
<td>Staph. aureus</td>
</tr>
<tr>
<td>3</td>
<td>50</td>
<td>w</td>
<td>16</td>
<td>4</td>
<td>16,2</td>
<td>12,5</td>
<td>Staph. aureus</td>
</tr>
<tr>
<td>4</td>
<td>55</td>
<td>w</td>
<td>66</td>
<td>3</td>
<td>12,1</td>
<td>14,8</td>
<td>Gram-pos cocci</td>
</tr>
<tr>
<td>5</td>
<td>27</td>
<td>w</td>
<td>13</td>
<td>3</td>
<td>9,7</td>
<td>1,8</td>
<td>No growth</td>
</tr>
</tbody>
</table>

RESULTS
None of the patients had a history of surgery to the hip or recently received any injections, intravenous drugs or had suspicious comorbidities. Arthroscopic findings where graded according to the classification of Gaechter (Figures 5-10). Patients #1, #3, #4 and #5 had signs of severe inflammation with diffuse synovial injections, various amounts of pus and fibrinous depositions but without advanced cartilage alterations (Stage II). Patient #2 was graded as Stage III as localized cartilage erosions without subchondral dissemination could be seen. Patients were discharged to ambulant treatment after 12.2 days (range 7 - 14). Postoperative recovery was uneventful, with WBC and CRP returning to physiological levels. At final follow-up after 28 months (range 8 - 66) none of the patients showed recurrence or signs of progressive joint degeneration. The mean Harris Hip Score of 94 (range 91 - 100) indicates excellent clinical results in all patients.

CONCLUSION
In patients with preserved joint space and without extraarticular abscess formations, arthroscopic management is a promising minimally invasive option of treatment also in adults with low rates of post-surgical morbidity.

TREATMENT
Surgical treatment protocol consisted of immediate arthroscopic intervention using 4 portals for debridement, partial synovectomy, high-volume irrigation and insertion of suction drains. All patients underwent a scheduled second-look arthroscopy and intravenous antibiotic treatment was administered 4 weeks postoperatively.

CMSC
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References: