Abstract
This retrospective study sought to elucidate the incidence rates of roof impaction (RI) and marginal impaction (MI) and radiological and clinical outcomes of open reduction and internal fixation (ORIF) for RI and MI in geriatric acetabular fractures. The cases of 68 patients aged $\geq$65 years (mean 71 yrs) treated with ORIF were analyzed. MI was present in 12 fractures (67%), and an RI of the weight-bearing surface was present in 24 (46%) of the potential fracture types. Regarding the reduction quality, 54% of the reductions were graded as anatomical, 37% as imperfect, and 9% as poor. In the clinical evaluations of the 45 patients who had $>$1-year follow-up (follow-up rate: 66.2%), 18% were graded as excellent, 53% as good, 16% as fair, and 13% as poor. An anatomic reduction was strongly associated with good or excellent clinical and radiological outcomes. CT was superior to radiographs for detecting the residual displacement postoperatively. Postoperative deep infection occurred in four patients. Three patients (6.7%) underwent a total hip arthroplasty conversion due to secondary osteoarthritis of the hip. We recommend ORIF as the preferred surgical treatment option for displaced acetabular fractures in elderly patients.