Background
The insertion of the cup into the acetabulum in condition of its defects and poor bone quality is still a problem in THA.

Objective: To retrospectively evaluate the result of use of cups of implants with tantalum surface in condition of osteoporosis and acetabulum abnormalities at early terms of follow up.

Material and methods
In department of Joint Pathology of Sytenko Institute of Spine and Joint Pathology for the period from 2012 till 2014 years THA was performed in 26 patients with using cups with tantalum surface. Patients were split in 5 groups: 14 – with dysplastic osteoarthritis, 7 – with dysplastic osteoarthritis after previous surgical procedures, 3 – with posttraumatic osteoarthritis, 1 – with non-union of femoral neck fracture and 1 – with pathological dislocation of the femoral head due to osteomyelitis. In 6 cases acetabulum reconstruction was performed for segmental defects with structural autografts. In 16 cases acetabulum reconstruction was performed for cavitary defects with spongy autografts. In 4 cases with osteoporotic acetabulum enhancement of acetabulum walls was performed with spongy autografts.

Results
Positive results of treatment in the average duration of follow up 2,6 (1 – 3,5) years were observed in 100 % of cases. The Harris Hip Score improved from 32 to 85. There were no instances of cup migration.

Conclusion
This study approved the efficiency and expedience of use of cup of tantalum surface under defects of acetabulum and osteoporosis within the given term of follow up.