Tooth loss is often associated with atrophy of the alveolar ridges and insufficient bone for dental implants placement. The preservation of alveolar ridge dimensions and bone characteristics could be more effective than any augmentation methods. Attempts to reduce alveolar bone resorption include the placement of natural roots, root analogues and immediate implantations into the extraction socket.

The aim of this study was to evaluate the effectiveness of reverse tooth retention methods in alveolar bone volume preservation.

**Materials and methods:** The study included 65 consecutive patients presenting beaked teeth or their roots after trauma or periodontal disease with atrophy beginning. The own method of reverse teeth retention was performed in all cases. The treated roots were covered with gum flap sometimes in combination with membrane. The place was treat with red rays laser. The height of the alveolar bone ridges was calculated in each patient after X-ray or CT evaluation.

**Results.** Follow up observation of patients show a mean marginal bone loss of 1,2 mm during the period of observation. The vertical resorption in frontal area was 1,4±0,5 mm, in molar area the horizontal resorption was absent during 3 years, during 5 years it was 1,7±0,7 mm and during 8 years 1,6±0,9 mm.

The degree of atrophy correlates with intensive smoking habits (r=-0,54, p<0,05), daily use of alcohol (r=-0,39, p<0,05), low calcium diet (r=-0,36, p<0,05). In 17 cases of root preservation and in 45 cases of teeth crown preparation with reverse retention were provided and the standard implantation procedure was conducted based on sufficient alveolar ridge size (width 6,3±1,7 mm, height 12,0±0,8 mm). In retromolar area the volume of alveolar plate in 3 cases there was insufficient bone's volume and the artificial grafts were used.

The results of this study suggest that method of reverse teeth retention could be successfully used before implantation procedures or another prosthetic technique.