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WUTTIPONG TIRAKOTAI : CRANIOPLASTY USING FROZEN  
AND IRRADIATION TREATED AUTOGENOUS BONE GRAFT. THESIS  
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The purpose of this study is to determine the use of preserved autogenous bone flap in 15 patients (16 sites). These bone grafts were removed during the initial surgery and preserved at  $-70^{\circ}\text{C}$  and irradiated with 25 kGy Gamma ray for cranioplasty. All the patients were clinically followed for at least 6 months. The natural course of the grafts was examined by plain skull film and bone scintigraphy.

Results of this study revealed that 14 sites of bone graft were successful. Major complications included one single graft resorption where the bone configuration was lost. The other was removal of bone graft because of deep infection. The X-ray findings and bone scan changes determined the process of bone incorporation (revascularization, resorption and new bone formation). The bone scan count value may be used to predict the occurrence of osteolytic lesion on X-ray film at 6 months with its sensitivity and specificity.

In conclusion cranial bone autograft is a good material to repair cranial bone defect as it is strong enough to ensure adequate strength for the brain protection and provides cosmetically acceptable results with shorter operation time.