Abstract

A comparison between the healthy bone and the amputated bone of twenty unilateral transfemoral amputees was done by generating three Hounsfield Unit (HU) histograms at different parts of the femur (femoral head neck, metaphysis and diaphysis), based on images obtained by Computer Axial Tomography. The results show a significant statistical difference (p-value<0.05) of HU, which is reflected by the bone mineral density between the bones of amputated and healthy limb. These differences demonstrate that the exoprosthesis use, generates bone demineralization which is also related with stress shielding phenomenon.

Keywords

Femur, transfemoral amputee, mineral density, stress shielding.