

Osteoporosis is a disease characterized by low bone mass and deterioration of the micro-architecture of the bone tissue, which lead to increased bone fragility and therefore, an increased risk of fracture. The purpose of this work is to quantify the porosity of radiographic bone images in order to characterize osteoporosis. Two methods are used to characterize radiographic bone images, lacunarity and star volume distribution. The first method is based on fractal analysis and the second on the evaluation of the bone medullar space. 2D bone radiographic images from two populations composed of 80 control subjects and 80 patients with osteoporotic fractures are analyzed. The results show a good discrimination between the two groups