Morphometric study of the lumbosacral spine and some of its related angles in Lebanese adult females

Abstract

The present study was undertaken to examine the morphometric characteristics of lumbar vertebrae, lumbar intervertebral discs and some important related angles in Lebanese adult females. The subjects of this study were thirty Lebanese adult females aged between 18-22 years. The subjects were selected among students of the faculty of health sciences, Beirut Arab University. Two plain radiographic views for the lumbosacral spine were taken for each subject, an anteroposterior view and a lateral view. Measurements were made directly on the X-ray films using Vernier calliper and were recorded to the nearest tenth of a millimetre. The following measurements were taken for each lumbar vertebra: the anterior height of the body, the posterior height of the body, the horizontal diameter of the pedicle, the vertical diameter of the pedicle, the interpedicular distance, the width (transverse diameter) of the body. Also the anterior height, the posterior height and the anteroposterior diameter (disc depth) of the intervertebral disc were measured. In addition, the following angles were measured: the angle of lumbar lordosis, the lumbosacral angle and the angle of sacral inclination. The mean and standard deviation were calculated and recorded. The results offer a base line reference for normal Lebanese adult females and a guidance to clinicians for the evaluation and management of subjects complaining of low back pain, in order to propose specific preventive or rehabilitation protocols to prevent low back pain as a function of spinal alignment. Moreover, these normal figures could also be of forensic importance because of the observed racial, ethnic and regional variations.