Abstract:
Facet joints play an important role in intervertebral load transmission and are crucial for rotational kinematics. Clinically, the role of facet joints as a possible source of low back pain is seen as controversial and at present is not sufficiently investigated. In this study, human lumbar facet (zygapophyssial) joints from donors with advanced age were analyzed macroscopically, for degenerative changes. The aim was to determine the extent and morphology of degenerative changes in these joints. Lumbar facet joints (L1-L5) of 32 donors were studied (mean age 80.1+/-11.2 years). Joint capsules were carefully removed and joint surfaces (5 zones) examined using magnifying glasses and probes. In the result, the majority of facet joints showed cartilage defects of varying extent. Defects were located mostly at the margins of the articular surface, the central zone being relatively well preserved. Defect localization was different between superior (most cartilage defects in superior zone) and inferior (most defects inferiorly) facets. Further, defects were more severe caudal (level of L5) and in older persons. Osteophytes were present in up to 30%, located mostly at the latero-dorsal enthesis of the joint capsule on the superior facet. In conclusion, most margins of the articular facets are subject to degenerative changes in the lumbar spine of elderly persons, the topographical pattern being different in superior and inferior facets. This observation can be explained by the
segmental motion patterns during extension/flexion movements of the facets. Sometimes, due to the marginal extension, it is obvious that not all changes can be assessed by CT or MRI.