Abstract:
Anatomical dissection of the human temporal bone is an essential element in the education of ear surgeons. Unfortunately, the acquisition of human temporal bones can be difficult. As an alternative, temporal bones of animals might help. The temporal bones of ten common pigs taken out of a butcher's daily routine were drilled and dissected under clinical aspects. The resulting anatomy was analyzed and measured. Especially, the mastoid, the external ear canal and the middle ear were incorporated. The preparation was done following a strict order of steps relevant to typical work of an ENT surgeon. Our results were compared with known data of the human temporal bone and effectiveness concerning surgical training was verified. We could see that the temporal bone of the pig had a totally different appearance compared to the human one, especially regarding the length and location of the external ear canal. Also, the mastoid is difficult to identify. It is hidden by the atlanto-occipital joint and has no pneumatization. The anatomical landmarks as the arcades and the facial nerve are congruent to the human anatomy although not all structures are accessible via the mastoid. The pigs' middle ear showed to be very similar to the human one. The incus showed a shortened long process. This study showed that the temporal bone of the pig might be an alternative regarding some aspects of surgical training in ENT education. A complete replacement is not possible.
After some modification, it might be an efficient model for endaural techniques and ossicular manipulation.