Abstract:
This study investigated a new technique for the bilateral sagittal split osteotomy (BSSO) by adding a new osteotomy line at the inferior border of the mandible in the Obwegeser-Dal Pont operation. For this purpose a test system was designed and 100 pig mandibles were split to assess the test's reliability, to compare the torque necessary to split the mandible in both techniques and to record the fracture lines. The splitting technique was standardized, avoiding any contact with the inferior alveolar nerve. All outcomes were statistically examined by paired t-tests. By using the new technique, we demonstrated a decrease in the torque force required to split the mandible of 29.7% (t(69)=-12.68; p<0.05, paired t-test) compared to the Obwegeser-Dal Pont technique. The fracture lines were close to ideal. The additional osteotomy facilitates the BSSO technique and it reduces the likelihood of bad splits and damage to the inferior alveolar nerve in pig mandibles.

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