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The position of midline mandibular lingual canal in a sample of mandibles with relationship to the alveolar and cortical bone in the view of placing dental implants.

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The midline mandibular lingual canal (MMLC) contains a blood vessel that may haemorrhage if perforated leading to haematoma formation of the floor of the mouth and airway obstruction. The proximity of the implant site to the midline lingual canal is pivotal when dental implants are planned. This study sets out to decide whether a possible implant in the midline of the mandible is feasible in certain patient groups by determining the distance from the median lingual canal to the implant site.

Dried mandibles (31 black males; 28 black females; 32 white males; 31 white females) from the Pretoria Bone Collection were scanned using Cone Beam Computed Tomography (CBCT). Measurements were made on mid-sagittal or sagittal sections for edentulous and dentulous mandibles. Sections were inspected for the presence of MMLCs. A distance of 6mm across from cortex to cortex bucco-lingually was considered sufficient for placing an implant and was delineated with the caliper tool. If this distance was in excess of 6mm, the calliper was placed across the deepest part of the extraction cavity where a vertical line was dropped in the center of the canal to measure the superior distance to the median lingual canal (superior distance). An inferior distance was also taken from the lingual canal to the inferior border of the mandible.

Statistically significant differences (ANCOVA) were shown only for the superior distance among the sexes ($p = 0.0044$) and dentition patterns ($p = 0.0006$) where the former was significantly shorter in edentulous females ($6.02\text{mm} \pm 4.88$). As 8mm is considered the minimum implant depth, edentulous female patients are at risk to injure the vessels of the MMLC during implants in that area. In conclusion the MMLC is a consistent feature within the anterior mandible and this area should be approached with caution by clinicians.

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(SA Journal of Science)?
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No

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