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## AN ANATOMICAL STUDY OF THE HUMAN MAXILLARY SINUS SEPTA ON SINUS LIFT SURGERY FOR DENTAL IMPLANTS

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**Purpose:** The purpose of this study is to investigate anatomically the maxillary sinus septa that may cause the membrane to break while using instruments to lift it in sinus lift surgery (maxillary sinus subantral bone augmentation) for dental implant placement. In this study, 132 hemi-maxillary bone blocks in 75 Japanese cadavers used for student's education in Kanagawa Dental College were investigated.

**Results:** The size of the sinuses averaged 31.6 mm in anterior-posterior length at the level of the horizontal plane where it located at a height of 25.0 mm from the crest of the alveolar ridge and 19.3 mm in width on the zygomatic processes line positioning at the central site of the zygomatic processes.

- (1) The incidence of the sinuses showing the septa in the bottom of the maxillary sinuses was 34.1%, 45 sinuses of 132. The number of the septa was 70 of 45 sinuses and the average was 1.6 for each sinus.
- (2) Concerning the location of the septa, 34 septa in 28 sinuses were observed in front of the zygomatic processes line, 34 in 28 sinuses behind it and 2 in 2 sinuses on it.
- (3) The zone between zygomatic processes line and 10 mm anterior to it on the lateral wall, was fewest for observing 9 septa in 9 sinuses (6.8% of 132), compared with the anterior area seeing in 29 sinuses (22.0%).
- (4) Concerning the direction of 49 septa (70% of 70), it showed that the septa in front of the zygomatic processes line spread out toward anterior from the inner wall, and the ones behind it toward posterior.
- (6) The height of the septa was 4.2 mm on average arranging from 0.5 mm to 12. The maximum height was 25.7 mm.
- (7) There was no relationship between the number of the missing teeth and incidence of the sinuses with the septa.

**Discussion and conclusion:** The conclusion was that the location, shape, height, direction of the septa should be confirmed in order to access the window to the sinus, manipulation of instruments and so on for sinus lift procedures.