SURGICAL IMPLICATIONS OF CARCINOMATOUS INVOLVEMENT OF THE DENTO-ALVEOLAR COMPONENT OF THE MANDIBLE - A HISTOPATHOLOGIC STUDY"

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The mandibular dentoalveolus is a complex anatomical unit specially adapted to support teeth and respond to special functional requirements of dentition and periodontium. Although osseous elements that constitute alveolar bone are indistinguishable from the bone which makes up rest of the skeletal frame work, its morphological and functional adaptations confers it with a certain distinction. The alveolar process responds differently to physiologic and pathologic stimuli compared to the the basal bone and this is also true with regard to the spread of carcinoma.

The alveolus is frequently involved by the spread of oral carcinomas arising from the gingiva, buccal mucosa floor of the mouth and retromolar trigone regions. Rarely it is also the site of primary intra osseous tumors arising from the odontogenic epithelial remnants. It has been shown that cancers involving the alveolus have a higher probability of regional lymph node metastasis as compared to cancers at other sites within the oral cavity, with the exception of cancer of the tongue[28]. It is likely that this difference is due to anatomical and functional factors related to the role of the alveolus as a supporting structure for the dental apparatus.

The alveolus is formed in response to the formation of teeth and resorbs when the teeth are lost. The mandibular alveolus has a relatively thick cortical plate as compared to that of the maxilla, but thinner compared to that of the mandibular corpus. Nerves, blood vessels and lymphatics enter and leave the alveolus through numerous perforations. Unlike the corpus, the volume of bone present in the alveolus is considerably less . Much of the space in the alveolus is occupied by the roots of the teeth and periodontium which is enveloped by a specialized cribriform plate of bone. Numerous nerve fibres, blood and