Change of Instruments in Maxillofacial Surgeries: A Rule Oft Forgotten

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Dear Sir,

The teeth and mucosal surfaces of the oral cavity harbor a diverse but characteristic micro flora. The predominant organisms include *Streptococci*, *Neisseria*, *Capnocytophaga* and in particular, *S. salivarius*, *S. mitis* and *S. oralis* [1]. Mounting evidence suggests that these oral bacteria adapt, multiply and survive in niches at extra oral sites and induce inflammatory responses and infections including cardiovascular disease, rheumatoid arthritis, respiratory tract infections, organ inflammations and abscesses [2].

This microflora hangs in a delicate balance, which when disturbed may cause infections. It can occur due to breach in continuity of the oral mucosa that affords access to these bacteria to the sterile milieu. Stress related to polytrauma, blood loss and surgical trauma expose the patients of maxillofacial injuries to the risk of infection arising from this inhabitant flora of the mouth.

Open reduction and internal fixation (ORIF) is a well standardized procedure for fixation of facial fractures. This requires exposure of fracture sites by intraoral or extraoral approach depending on the areas of interest. Extraoral sites might need exploration include supra orbital rim, infraorbital rim, frontozygomatic suture, frontal bone etc. ORIF

for multiple fragments and involves frequent manipulation of intraoral and extraoral region. Such a practice may lead to transfer of inhabitant bacterial flora to extraoral sites where they may cause severe infection.

The possibility of the surgical instruments acting as fomites has not been dealt with widely in literature. A few authors suggest that the individual applying the maxillomandibular fixation (MMF), should change gown and gloves before returning to the sterile field in case of a temporomandibular joint replacement surgery [3]. Having a separate set with dedicated MMF instrumentation and suction serves the purpose. A similar practice is prevalent in onco-resection wherein exchange of instruments is not allowed between the resecting and reconstructing teams [4].

The authors propose that along with the customary change of gloves, there should be a separate set of instruments for intraoral and extraoral dissection even and especially in cases of maxillofacial trauma so as to avoid transmission of the pathogenic bacteria from the oral cavity to extra oral sites. Instruments like blade, periosteal elevator and retractors must not be taken from the intra oral field to extraoral sites. Though the use of this practice may increase the preparatory time and effort on the part of nursing assistant, it is more than compensated by avoidance of infection. Sometimes many surgeons, mainly the young learners tend to miss out on this very basic but important step of keeping the instrument set separate for intraoral and extraoral dissection, which may seriously jeopardize the patient's outcomes and extend the postoperative recovery time.

Though detailed studies are required to prove or disprove the role of instruments as fomites, it is a very logical assumption and if kept in mind and followed in practice, will stand the surgeon in good stead.

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