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Oral Piercing – Pain Or Pleasure?? A Review Article

Dr. Nitin Agarwal[1], Dr. Haider Iqbal[2], Dr. Kirti Agarwal[3], Dr. Saurabh Mathur[4], Dr. Siddharth Saurabh[5], Dr. Ankit Saha[6]

[1](Department of Oral Medicine & Radiology,Sardar Patel Post Graduate Institute of Dental and Medical Sciences,India)
[2](Department of Oral Medicine & Radiology,Sardar Patel Post Graduate Institute of Dental and Medical Sciences,India)
[3](Department of Pedodontics & Preventive Dentistry, Saraswati Dental College, India)
[4](Department of Oral Medicine &Radiology,Saraswati Dental College, India)
[5](Department of Oral Medicine and Radiology,RKDF Dental College, India)
[6](Department of Oral Medicine & Radiology,Sardar Patel Post Graduate Institute of Dental and Medical Sciences,India)

Abstract: *Oral piercing is a popular trend, but this fashion statement comes with some serious health risks. The oral and perioral piercing has a long history as part of religious, tribal, cultural or sexual symbolism. Nowadays there is a high incidence of oral and perioral piercing in the adolescent population. Oral and perioral piercing involve the insertion of jewellery into the tongue, lip, cheek, frenum, uvula or other parts of the mouth. This paper covers some of the commonly and uncommonly encountered complications related to oral piercing.*

Keywords**:** *oral piercing, body art, oral jewellery*

I. Introduction

A Systematic review of the scientific literature was done and a database of indexed journals (Pubmed, Science direct and Ovid) and search engines like google, was searched. The keywords used were oral piercing, perioral piercing, body art, oral jewellery.

Body art[6] is the term usually applied to tattooing and the wearing of jewellery (piercing) in unconventional sites. Piercing of the body and placing of jewellery is an ancient practice, and was typically restricted to the ears, nose and the mouth.[1] Roman centurions wore nipple rings as a sign of virility and courage, ancient Egyptians pierced their navels to signify royalty. Hindus and Mayans practiced piercing as a part of religious rituals (fig 1), in some Amazonian tribes and in the Surma tribe of Ethiopia, large plates are worn in the lower lip (fig 2), others wear lip plugs. Among those with non-traditional body piercings, the tongue is the most prevalent site followed by the lips.[2]

Body piercing (a form of body modification) is the practice of puncturing or cutting a part of the human body, creating an opening in which jewellery may be worn.

Oral/perioral piercing sites for jewelry placement include the (1) tongue, (2) lips, (3) cheeks, (4) frenum, and (5) uvula.

Most of the intra-oral jewellery used comes in the form of studs, hoops or barbell shaped devices available commercially.[4, 8]The jewellery may be surgical grade stainless steel, 14 carat yellow or white gold, niobium or even plastics may be used.[4]

The persons undergoing oral piercing are frequently unaware of the associated risks. Oral and dental complications associated with piercings are categorized as acute (early) or chronic (late).[5] Acute complications typically arise within 24 hours following insertion of the jewellery into the tongue and are usually confined to injuries of weak tissues.[32]

II. Post-insertion complications in the early days

Post operative pain, edema, hemorrhage, tearing of tissue (fig 3), infection, one recent report estimated a 20% infection rate with intraoral piercing.[39] The accumulation of dental biofilm and calculus at pierced sites may promote the development of infections.[7] Interference with speech and mastication[9], risk of aspiration or inhalation, eczematous rash or allergies, particularly against nickel .[4, 12, 28] Blood vessels may be torn and vascular nerves damaged, acute hypotension.[16]Hardee and others [42] reported a significant loss of blood from hemorrhage following a tongue piercing, which resulted in hypotensive collapse.

III. Other and later complications include

Pain, swelling[10] and infection[50], mucosal or gingival trauma, chipped or fractured tooth, increased salivary flow, calculus build-up, foreign body granulomas[11,13]or allergies, hypertrophic scarring (fig 4), Ludwig's Angina.[14, 24, 25, 26]bleeding into the pharynx and airway obstruction in anaesthesia[15], airway problems secondary to swelling of the tongue.[30, 31, 32]damage to deeper structures such as nerves and blood vessels. Finally, the potential risk ofaspiration or inhalation of parts of the jewellery if theycome loose should not be overlooked[2, 32, 33](fig 5).Complications during and before administration of general anaesthesia.[54, 55]Tongue or oral piercing[40] may be complicated by normal oral flora, such as Haemophilus aphrophilus[23, 35, 36, 38]

One unfortunate individual at risk from hereditary angioedema, developed airways obstruction after tongue piercing.[17]Another unusual situation involves the possible effect of the jewellery on breath odour. When alcohol elimination was evaluated in two subjects with pierced tongues and in two controls, no differences in the mouth alcohol elimination patterns were observed.[18]

Complications from other types of piercing have included relatively serious adverse effects such as Staph. aureusinfections[19], osteomyelitis, toxic shock syndrome and endocarditis[20], Neisseria endocarditis after tongue piercing [23], Pseudomonas aeruginosa infection[21] and HIV transmission[22, 58]. Although relatively rare, other serious life-threatening complications, such as the development of cerebral brain abscesses have also been reported[34].

In one study, a group of 63 Californian patients with oral piercing were reviewed and, though complications were not common, tooth chipping was seen in one quarter of patients and a range of other problems was encountered[13]

After healing has occurred, the most common complication is damage to the teeth[29] and restorations as oral jewellery strikes the teeth in a 'wrecking ball' fashion (fig 6), galvanic currents, airway obstruction, deep cyst formation, lymphocytoma and neuroma.[55]
Hepatitis B and C are the most common viruses transmitted by body piercing.[41]North American National Institutes of Health has identified piercing as a possible vector of transmission of blood borne Hepatitis B, C, D and G. There is also the risk of transmission of Tetanus[56],syphilis and tuberculosis.[55]

Systematic literature review of 12 studies, 3 in USA, 4 in Italy and the remainder in Taiwan, Korea, Thailand and Africa (subject size from 110 to 13,000). Out of which 9 of the studies, including all US and Italy studies found body piercing to be a risk factor. More recent study in USA, looking at risk factors for acquisition of Hepatitis C (148 pts – 88 men, 60 women) demonstrated a high risk of contracting the disease after piercing[51]. (Table 2)

Brooks and colleagues [49] found documented cases of gingival recession from the increasingly popular behavior of intraoral piercing.[47] Jewellery-associated recession frequently develops as a narrow, cleft-like defect on the lingual and buccal aspects of the mandibular incisors,[43] with recession depths of 2–3 mm or more often extending to or beyond the level of the mucogingival junction[44](fig 7). Patients with oral jewellery may also be at risk of developing significant loss of periodontal attachment that may lead to tooth loss.[45] Severe attachment loss can develop even when gingival recession is minimal.[5] because attachment loss may escape detection,[44,43,46]

Interference with oral health evaluation:Jewelry in the mouth can block the transmissionof X-rays (fig 8, 9). Clear radiographs, are essential to a complete oral healthevaluation. Jewelry can prevent a radiographfrom revealing abnormalities like cysts, abscessesor tumors**.**
The restorative method used for a tooth traumatized by tongue jewellery depends on the individual case.

Restorative approaches compatible with the existing tongue jewellery must be considered to increase their clinical longevity.[27,47] Porcelain onlays, for example, are not suitable in the presence of barbell tongue ornaments because of the brittle nature of porcelain and its low resistance to impact.[48] Porcelain crowns may also be chipped by tongue jewellery.

In addition, many athletes now display various forms of intraoral piercings, which might lead to a greater risk of dental complications where use of a mouthguard is mandated.[53]

IV. Discussion:

In this article, we present a brief review of the current literature on potential complications and adverse consequences of tongue and lip piercings. Our objective is to provide a general overview of possible problems that may be encountered by dentists immediately or after some time following piercing. In addition, we highlight the urgent need for dentists and doctors to inform target patients of the risks associated with oral piercings. In fact, the American Dental Association has formulated a position statement opposing oral piercing.[52]

"The American Academy of Pediatric Dentistry strongly opposes the practice of piercing intraoral and perioral tissues and use of jewelry on intraoral and perioral tissues due to the potential for pathological conditions and sequelae associated with these practices"

The decision to "pierce" is often a personal statement signifying self-expression, fashion trends, risk-taking or daring, with no formal religious or societalpurpose.

Dentists are often the first to note any negative effects from the piercing process or from the jewelry itself. A study published in the California Dental Association Journal[2] indicates that these effects are numerous enough to alert the profession to the problems arising. Oral or facial piercings are now common practice and therefore, dentists should be in a position to advice patients from oral piercings.

V. Figures:

Fig 1. Some people in Southern India pierce the tongue with a skewer to maintain a vow of silence

Fig 2. Surma tribe of Ethiopia, large plates are worn in the lower lip.

Fig 3. Ripped or torn tissue after piercing

Fig 4. Hypertrophic scarring

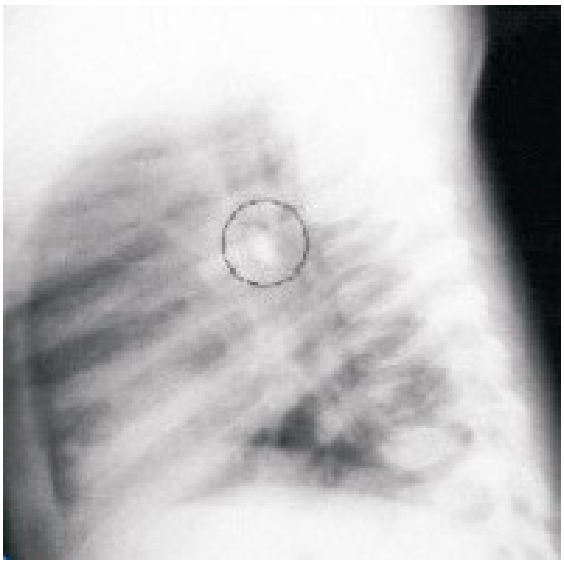

Fig 5. Aspirated mouth jewellery

Fig 6. Chipping of incisal edge in a wrecking ball fashion due wearing of intraoral jewellery

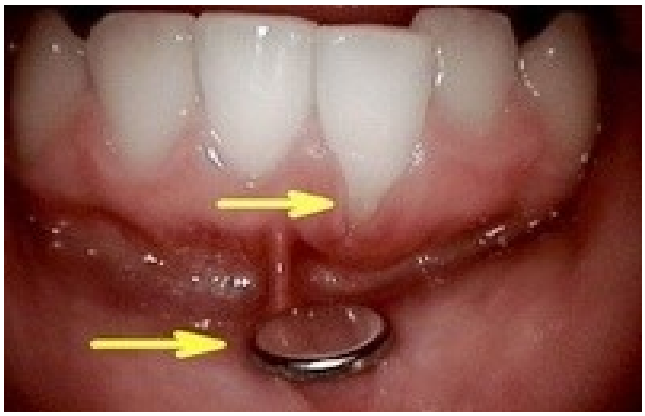

Fig 7. Jewellery-associated recession

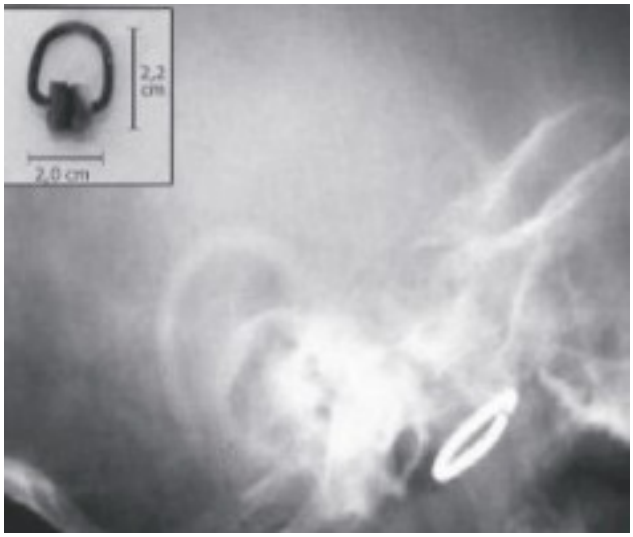

Fig 8. Oral jewellery as a radiographic artifact

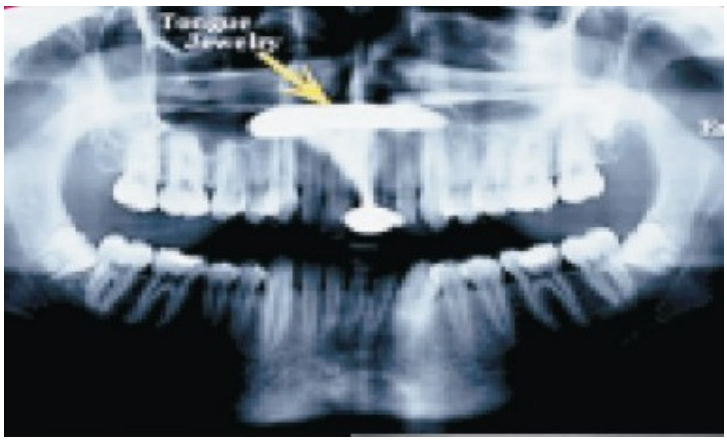

Fig 9. Tongue jewellery interfering with radiographic diagnosis

VI. Tables:

Number of cases	**51**
Cases requiring medical/dental attention	2
Tooth damage	13
Gingival injury	4
Infections	3
Hypersalivation	8

Table 1. Complications of tongue-piercing.(Boardman and Smith 1997)[2].

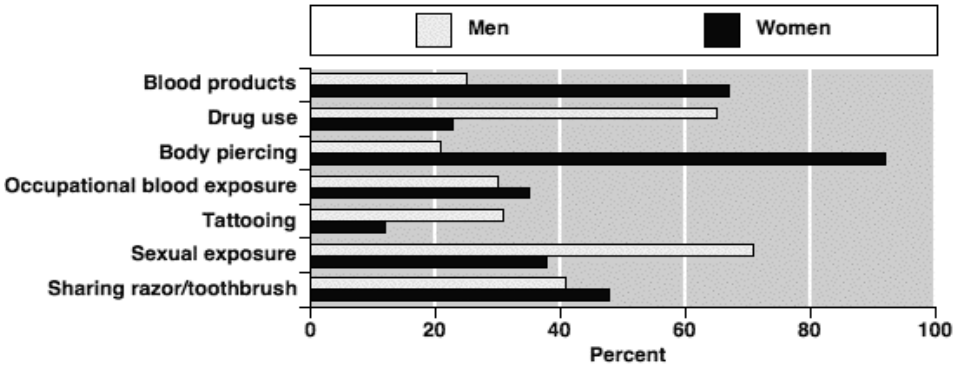

Table 2: Associations between **hepatitis C** infection and known risk behaviours

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