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RESEARCH ARTICLE

MANAGEMENT OF ANKYLOGLOSSIA WITH DIODE LASER-A CASE REPORT

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Abstract

Tongue is an important organ, which helps to perform many functions like deglutition, mastication and speech. A tongue-tie is a "condition in which tip of the tongue cannot be protruded beyond the lower incisors teeth because of the short frenulum lingulae often containing scar tissue". This condition leads to various difficulties. The conventional technique of doing a lingual frenectomy with a scalpel has various disadvantages. This present case report discusses on use of diode laser in management of ankyloglossia.

Introduction: -

Tongue performs various important functions [1]. First, second and the third pharyngeal arches have a role in its development. On the front part of the developing tongue v shaped sulcus develops, this sulcus makes the tongue move freely except at lingual frenum [2]. A tongue tie is a "condition in which tip of the tongue cannot be protruded beyond the lower incisors teeth because of the short frenulum lingulae often containing scar tissue"[3] .It produces a various difficulties from breast feeding to speech difficulties in the child. For many years conventional techniques with the use of scalpel has been used to treat ankyloglossia because of its various advantages. But this condition is slowly been replaced with the breakthrough of laser in dentistry [4, 5]. Laser has been shown to provide a wide range of advantages over conventional technique [4]. There are various types of laser available among which diode laser has been proven to be advantageous. This case report describes a diode assisted lingual frenectomy.

Case report: -

An 18-year-old female patient complaining of malocclusion and difficulty in speech was referred from the Department of Orthodontics to the Department of Periodontics, Saveetha dental college, Chennai. On intraoral examination, the patient was found to have ankyloglossia [Fig 1a and b]. Lingual frenectomy with the use of diode laser was planned. The patient was asked to sign an informed consent before the procedure. Topical anesthetic was used which was followed by injection of 2% lignocaine into the frenum. Diode laser of wavelength– 810 nm, 1.2-watt power and continuous wave emission mode was used. The laser was used in brushing stokes moving from apex to base of the frenum [Fig 2]. The tissue tags, which accumulated in the tip of the laser hand piece, were removed continuously. Thermal damage to the tissue was prevented with the use of wet gauze piece. Frenum was completely relieved from the alveolar ridge [Fig 3]. Immediate increase in tongue mobility was found [Fig 4]. No sutures were placed. The patient was reviewed after a week adequate healing and increase in tongue mobility was found [Fig 5].

Figure 1(a)

Figure 1(b)

Figure 2

Figure 3

Figure 4

Figure 5

Discussion: -

Though conventional technique of treating ankyloglossia which involves the scalpel has its advantages like easy accessibility, accuracy and lead to minimal damage to the surrounding tissue, it is not able to provide the adequate hemostasis which is required [7]. Lasers provide a greater range of advantages including greater precision, decreased blood loss, sterilization of the surgical site, minimal swelling and scarring, suture are not required. Laser wounds contain less myofibroblasts - which is responsible for wound contraction, which may result in better healing. Diode laser is compact and has been reported to provide better benefits on soft tissues. Its wide range of advantages includes its reduced need for anesthesia, better modeling of gingival tissues, hemostasis during and after the procedure and reduces the need for periodontal dressing. Diode laser radiations are better absorbed and lesser penetrated than Nd:YAG lasers. Hemoglobin better absorbs diode laser because of its wavelength, Thus diode laser has a better initiation performance. Deeper incisions are better achieved with diode lasers and they provide great cutting ability with relatively less damage zone [8].

Conclusion: -

Though ankyloglossia is not a life threatening condition it produces various difficulties in the patients, which necessitates early management of the condition. In this case report lingual frenectomy with the use of diode laser produced immediate and advantageous results for the patient. Thus, ankyloglossia could be one of the conditions, which could be beneficially treated with diode lasers.

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