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RESEARCH ARTICLE

SURGICAL ACCESS OF BILATERAL TRANSMIGRATED IMPACTED MANDIBULAR CANINES:' A RARE PHENOMENON ' - CASE REPORT

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Abstract

Bilateral transmigration of impacted mandibular permanent canines,an extremely uncommon occurrence.The mid-symphyseal region is where,the intraosseous tooth migration takes place.The tooth does not erupt in its usual occusal position and it crosses the mandible's midline. Here, a 28 year old male reported to the department of oral surgery,with chief complaints of pain and sensitivity in the lower front teeth region since 1 month. The mandibular right and left deciduous canines were seen to be retained on intraoral inspection. Orthopantomogram revealed mandibular right and left horizontal impacted permanent canines migrated towards the midline and situated below the apices of incisives.The two impacted canines were surgically removed,along with retained deciduous canines were also extracted out normally under local anaesthesia and under preoperative intravenous antibiotic medications. A follow-up on the patient is underway.

Introduction:-

The term "Transmigration" is defined as the displacement and migration of an impacted tooth,across the midline to the opposite side of the jaw,by Tarsitano and team-mates in the year 1971.[1-5] However,Ando et al. [2,6,9] primarily coined the term 'Transmigration'. Later in 1985,Javid modified the definition by adding that transmigration should be defined,when more than half of the length of the tooth or crown crosses the mid line.[1,4,5-7] It is described as an intraosseous displacement of impacted tooth ,where displacement causes the tooth to cross the midline by quite fifty percent . [8-9] Mupparapu et al. [1-10] classified transmigrated mandibular canines both unilateral and bilateral by using the following parameters like inclination,relationship with the midline,adjacent teeth and contralateral erupted canine. Bilateral transmigrated mandibular impacted canines,which cross the midline and get displaced in the lower border of mandible,are extremely rare 0.14%-0.31%, [1,2,5-8] According to literatures there are various suggested etiologies such as premature loss,retention of deciduous canines,long path of eruption,trauma,genetic predisposition etc.[9] Rich blood circulation as well as active alveolar bone formation in the developmental stage, might cause the expatriation of impacted teeth,as specified by Stafne and Gibilisco. [3,9] Here, the present case report depicts transmigration of bilateral horizontal impacted permanent canines, and its surgical approach.

Case Report

A 28 year old male patient reported to the department of Oral and Maxillofacial Surgery of Kddc Mathura,with chief complaints of pain and sensitivity in the lower incisors region,since 1 month(Figure 1). There was no relevant previous medical or dental history, and no trauma history was identified.The lower incisors have no major

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abnormalities on clinical inspection.The deciduous canines on the right and left seem to be retained.The patient was advised to go for orthopantomogram and mandibular occusal radiograph,which revealed the presence of both side impacted transmigrated mandibular permanent canines in horizontal position (Figure 2),below the root apices of lower incisors.The patient was informed about the present condition of impacted canines,and was advised to go for routine blood investigations,followed by surgical removal of the impacted canines,as well as normal extraction of deciduous canines under local anaesthesia.Patient informed consent was taken,and was planned for a transalveolar extraction through intraoral approach under local anaesthesia.All aseptic measures were properly carried out,and preoperative intravenous antibiotic injections were subsequently given.The patient was rinsed with 0.2% chlorhexidine(^{Rx} Topiclohex) to reduce the bacterial count in the oral cavity.[1] The operation was performed under local anaesthesia,bilaterally classical inferior alveolar,lingual and mental nerve blocks given.A crevicular incision was made from canine to canine,with releasing incisions from both sides,and full thickness mucoperiosteal flap elevated using periosteal elevator, and gradually separating the tissues down to the mandible's lower border (Figure 3).On exposure,a dome shaped hard swelling found over the symphysis region (Figure 3).An osteotomy was then performed using straight surgical handpiece and surgical round bur under copious saline irrigation over the localized dome shaped hard swelling,to expose the crown and part of root. The crown of the left mandibular impacted canine was exposed after the overlying bone was removed.Now using 702 surgical bur,osteotomy was done all around the tooth,to expose the part of root (Figure 4).Then using straight elevator (coupland) the tooth was luxated slowly to avoid breakage of root apex,and was extracted out using upper anterior forcep by giving rotational movements.The second canine i.e the right mandibular impacted canine was found to be situated lying just above to the left canine,so using same osteotomy technique the right canine was extracted out while luxating by coupland elevator ,and the retained deciduous canines were also extracted out using extraction forceps (Figure 6).The extracted sockets (Figure 5) were curated very well to remove the debris and follicles and bone smoothening done using bone file, and copious irrigation was done using saline and betadine solution.Collagen sponges(Ab gel) was placed inside the socket to achieve proper hemostasis and flap repositioned and vertical mattress suture was placed using 3-0 silk (Mersilk).Inj Dexamethasone intravenous 2ml, Inj Diclofenac and Inj tetanus toxoid intramuscularly were placed. At the end,intraoral pressure pack was given and post operative instructions and care given with ^{Rx} tablet Augmentin 625 mg(amoxicillin+ clavulanic acid) three times a day,tablet Metrogyl 400mg (metronidazole) two times a day,tablet Zerodol sp(aceclofenac+ serratopeptidase+paracetamol) three times a day,and tab Rantac 150mg (ranitidine) once daily for 5 days,with hydrogen peroxide mouth rinse (H2O2 1.5%).The patient came for follow up on 7th day ,where wound healing was satisfactorily seen,with no signs of any inflammation or pus discharge (Figure 7).The suture was removed on 7th day using suture cutting scissor,and ^{Rx} tab zincovit (multivitamins) was given once daily for 15 days. A follow-up on the patient is underway, he is now symptom free and does not need any further surgical treatments.A panoramic radiograph would be taken after one year or more to check for adequate bone healing.

Discussion:-

The transmigration of mandibular permanent canine, is an extremely uncommon occurence,[1-10] Around 5% of cases are registered. [8] Like commonly impacted tooth removal,it can also be associated with post operative pain,swelling,wound dehiscence ,trismus,hematoma etc.[8] Likewise previously reported of bilateral transmigration of mandibular canines,[1,5,6,10] This case presents bilateral transmigrated impacted permanent canines,which cross the midline one above the other in a horizontal position.The surgery was planned under local anaesthesia through intraoral approach.Pre operatively intravenous antibiotic injections were given before starting the procedure, ^{Rx} Inj Augmentin 1.2 gm(amoxicillin and potassium clavunate injection IP 1.2 g),Inj Metrogyl 100 ml (metronidazole injection IP).The whole surgical procedure was carried out under strict aseptic condition. The treatment was well received by the patient.The patient reported post operative swelling for first 4 days,after which all the symptoms got subsided.After 7 days suture removal was done,and wound healing was satisfactorily seen,no signs of any inflammation,redness or pus discharge reported. The patient will be followed up for a year.The nerve supply to the transmigrated canines, comes from the indigenous site.[2] As a result, anaesthetizing the nerve to the side of the canines to which it belongs is a very necessary feature when surgical removal of transmigrated canines is scheduled under local anaesthesia.[2] Likewise, in this situation, if general anaesthesia had been used, this issue would not have arisen.[2]

Conclusion:-

Whenever any permanent teeth cannot be extenuated (in absence of trauma) or if presence of any retained deciduous teeth,a dentist or an oral surgeon should get alert for the presence of any dental anomaly in the oral cavity.Proper

diagnosis and routine radiographic investigations should be carry out.This present case presented here "Bilateral Transmigration of impacted mandibular permanent canines" – embellish the practicality of this surgical approach. There are only a few restricted options available, as mentioned in this case,mostly transmigrated horizontally placed impacted canines are surgically treated. Incase,due to lack of detection of such cases can lead to serious damage,likely damage to the adjacent teeth,surrounding bone resorption,or pathological development of cyst etc.

Informed consent statement

The patient signed informed consents,and kept in the records of Departmental Hospital.

Case photographs (7)

Figure 1:- Intra oral examination revealed retained deciduous i.r.t 73 83,and missing permanent i.r.t 33 34,disturbed occlusion.

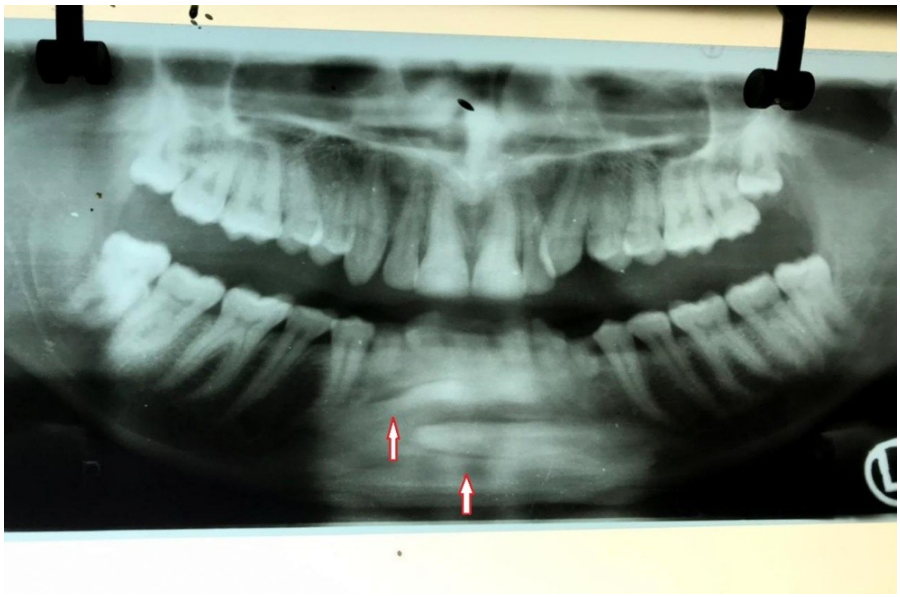

Figure 2:- Orthopantomogram showing two horizontally placed Transmigrated permanent canines.

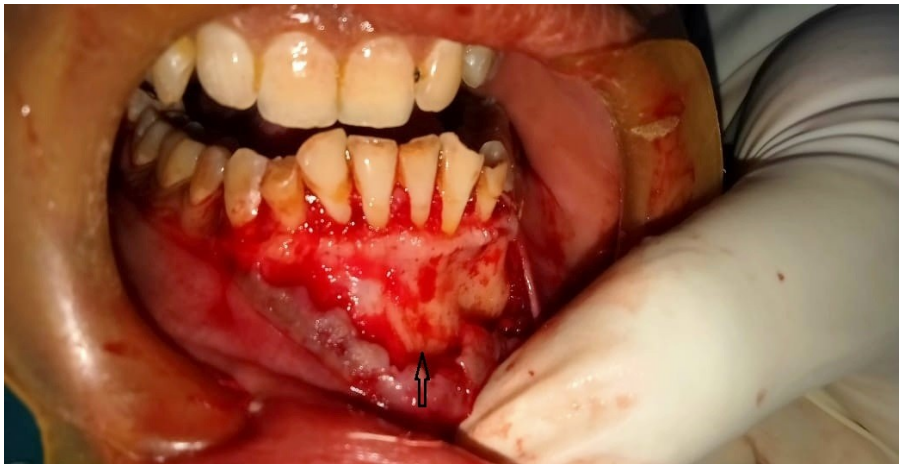

Figure 3:- Crevicular with releasing incisons, elevation of mucoperiosteal flap Full thickness, exposure of domes shaped bony swelling at symphyseal region.

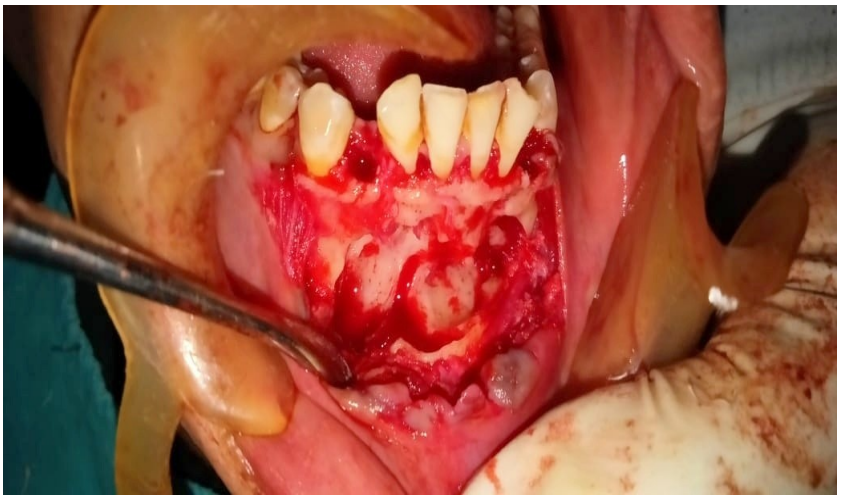

Figure 4:- Bone guttering exposing the crown and part of tooth root.

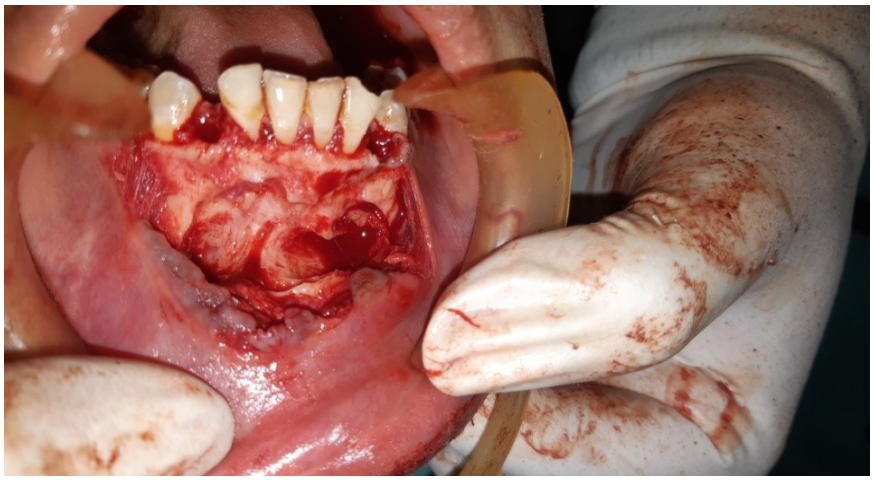

Figure 5:- Extracted socket of impacted canines.

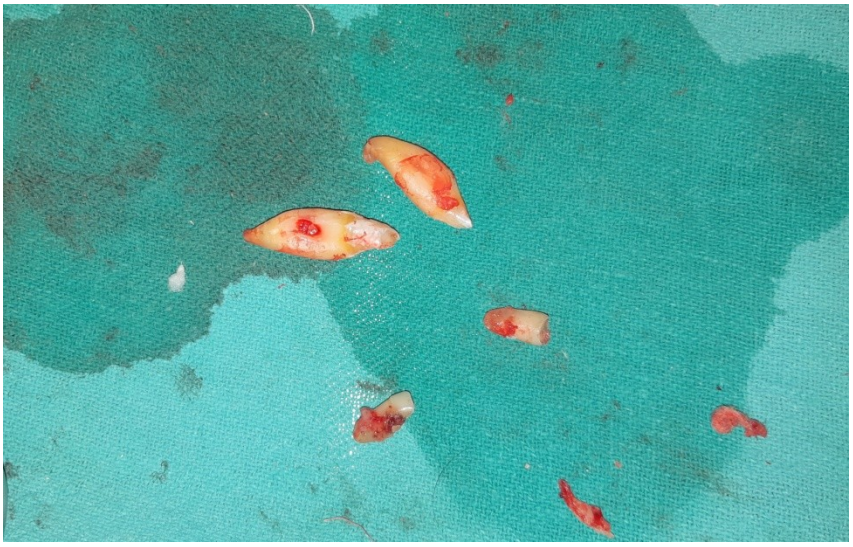

Figure 6:- Surgically Extracted permanent canines,and extracted deciduous Canines.

Figure 7:- Post op 7th day follow up showing healing satisfactorily done, No signs of inflammation or redness,no pus discharge.patient in under Follow up.

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