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PAIN CONTROL : CURRENT UNDERSTANDING AND MULTIMODAL APPROACH IN MANAGEMENT OF MAXILLARY MIDLINE CYST

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ABSTRACT

In 1968 Mc Caffery defined pain as "Whatever the experiencing person says it is whenever he/she says it does"

Pain is the most common reason individuals seek health care. Pain control in Oral And Maxillofacial Surgery is an important factor for reducing the fear and anxiety associated with dental procedures. In dentistry, local anaesthetics form the backbone for pain control. This case report highlights the implication of splash block technique in enucleation a maxillary midline residual cyst which would otherwise be operated under general anesthesia owing to its proximity to nasal floor.

KEYWORDS: Pain Control, Maxillary Midline Cyst, Residual Cyst, Local Anaesthesia Technique.

INTRODUCTION

"The only antidote to mental suffering is physical pain" - Karl Marx

Achieving good anesthesia is imperative to successful dental treatments. Diminished pain helps the operator to treat the patient in a composed manner. Various factors such as alteration in the pH, temperature, slow deposition of the anesthetic solution, and the use of topical anesthetic spray before needle insertion have been tried to reduce the discomfort of intraoral injection (1). Decreased intra-operative and postoperative pain, minimum post-operative complications and high patient co-operation are few of the advantages of operating under local anesthesia (2). Cyst enucleation under appropriate pain management leads to a hassle free procedure. The maxillary midline region remains tricky in terms of pain subsidization due to cross innervations on either side. Local anesthesia when administered in form of splash block seems affective in pain management

CASE REPORT

A 43 year old male reported with the chief complaint of a swelling in upper left front region of jaw along with pus discharge since two to three months. On interrogation, the swelling was non-tender and pus discharge was evident. On intraoral examination, maxillary left lateral incisor was missing. Radiographic investigation reveals a well-defined unilocular radiolucent structure of varying size at the edentulous area of a previous extracted tooth site. Cone beam computed tomography (CBCT) findings revealed expansion and resorption of the labial and palatal cortical plates, resorption and thinning of the floor of the nasal fossa and part of nasal septum, the resorption and possible involvement of the cortical lining of the nasopalatine canal. Enucleation of cyst was planned under local anaesthesia.

Tablet Alprazolam 0.5 mg was given prior to the day of surgery as it reduces fear and apprehension, provide sedation and aid stress-free induction of anaesthesia. Tablet Enzoflam (Diclofenac-50mg, Paracetamol-325mg And Serratiopeptidase-15mg) was prescribed before the procedure as a part of pre-emptive analgesia to minimize intra-operative nociceptive pain sensation and immediate post-operative pain.

Painting and draping was done, bilateral extraoral infraorbital nerve block was given by injecting 3 ml of lidocaine and adrenaline solution using a 25-gauge. The needle was inserted at the level of the infraorbital notch and was advanced medially approximately 15 degrees to the perpendicular to avoid entering the foramen. The needle was advanced until it approached the periosteum of the underlying bone. After gentle aspiration, 3 mL of solution was injected in a fan like distribution. Intraorally nasopalatine nerve block was given in the mid palatine region in between two maxillary central incisors and also bilateral greater palatine block was given as it reduces bleeding during surgery to control posterior epistaxis. Splash block in the nasal floor was given to achieve adequate anesthesia for a painless surgery.

Crevicular incision was made from left maxillary central incisor to left maxillary canine and then releasing incision was taken distal to left maxillary central incisor and left maxillary canine. Mucoperiosteal flap was raised. Bony window was made in the left lateral incisor region. The borders of

the cyst were separated from bone and was enucleated. Extraction of left maxillary canine and left maxillary central incisor was done. Irrigation was given using betadine and normal saline at the operated site. The operated site was approximated by 4-0 polyglactin 910 suture material. Excised specimen was sent for histopathological analysis which revealed the presence of residual cyst. Post operative analgesics, antibiotics and chlorhexidine mouth wash was prescribed.

DISCUSSION

Local pain management is, without doubt, the most critical aspect of patient care in dentistry. Today's anesthetics are safe, effective, and can be administered with negligible soft tissue irritation and minimal concerns for allergic reactions (3).

Psychological consideration of patient play an important role in pain management. When minor surgical procedures are performed, prevention of pain is often the major concern of the patient. Pain is most often described in terms of the sensory transduction and neural transmission of signals occasioned by noxious events, a process termed nociception. Psychological factors begin to impact nociception at the periphery (4).

Psychological interventions involve many mental and behavioral processes such as alteration of perception, distraction of attention, muscle relaxation, constructive manipulation of patient expectancy and belief, and the development of a sense of personal control over pain and emotional reactions to painful situations. The goals of psychological interventions for management of pain are to increase the patient's knowledge about future threatening events foster a sense of control over the pain experience; and teach skills that minimize pain, anxiety and distress (5).

Progress in making anesthesia safe for the patient is encouraging but the lack of progress in making the patient safe for anesthesia is disturbing. Modern anesthesia is quite as intimately concerned with the protection of the patient from mental discomfort in the preoperative period as it is with his protection from physical discomfort during actual surgical manipulation. Adequate preanesthetic preparation of the patient plays a lead role for a successful surgery. There should be a minimum of fear of the impending procedure and a maximum confidence of its success. Pre-anaesthetic medication is given in order to reduce fear and apprehension, provide sedation and aid stress-free induction of anaesthesia, reduce pre-operative pain and in the immediate postoperative period (7). The assurance of a fearless, confident psychic state is undoubtedly one of the most important purposes of pre-anesthetic medication. Tab. Alprazoplam is a benzodiazepine and works by increasing the action of GABA, a chemical messenger which suppresses the abnormal and excessive of the nerve cells in brain (6).

Local anesthesia plays an important part in the pain control of oral surgical patients (7). Pain management for the dental patient begins early in treatment planning and should take into account the general health status of the patient as it is integral part of pain control when performing surgery in the oral cavity (8). The ability to provide safe, effective local anesthesia is the cornerstone of clinical oral surgical practice. The nasopalatine neurovascular bundle is a delicate and highly vascularized structure giving rise to profuse bleeding if inadvertently sectioned during surgery. Electrocoagulation is required in such cases. Paresthesia of the anterior palatal zone is a rare complication found in 10% of the cases on removing nerve endings of the nasopalatine nerve along with the membrane of the cyst (2). Numerous oral surgery procedures involve raising palatal mucoperiosteal flaps and the incisive bundle may be either traumatised or electively divided. Multiple modalities are frequently synergistic and allow for decreased dosages of verbal agents rather than one large dose of a single agent. Additionally, if one strategy proves non-efficacious, other modalities can still provide some level of analgesia.

Splash Block: A splash block is simply either injected into tissues in the surgical site or placed into a closed space where it may diffuse. Paradoxically, the injection of local anesthetic is also perhaps the greatest source of patient fear, and inability to obtain adequate pain control with minimal discomfort remains a significant concern of dental practitioners.

Post-procedural

Pain Control

The use of local anesthetics in combination with non steroidal anti-inflammatory drugs has enabled dentistry to manage postoperative pain in most surgical patients. This reduces the need for opioid analgesics, with their attendant side effects of nausea, sedation and potential respiratory depression and addiction (9). So by using above technique proper pain management can be carried out in mid-maxillary region. Pain control is an important aspect in cyst enucleation as its reduces discomfort, fear of patient and enables patient cooperation for surgery.

In our case report, proper pre-operative, operative and post-operative pain management care was given hence we were able to reduce the patient's fear, anxiety and painless surgery was carried out for management of maxillary midline residual cyst. Proper anesthesia technique was used and asepsis was maintained.

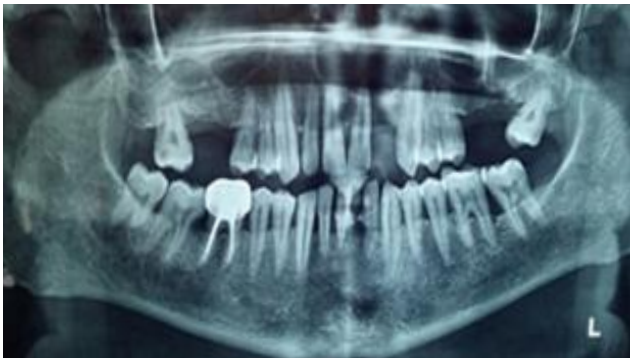

Fig 1: Orthopantomogram (OPG Of The Patient)

Fig 2: Pre Operative

Fig 3: Operative

Fig 4: Post Operrative

Fig 5: Cyst And Two Extracted Teeth

CONCLUSION

Pain is a sensory and emotional experience to the patient. The emotional component is variable from person to person and in the same person from time to time. Management of pain has to take this fact into consideration while treating midline maxillary cyst. One should understand the anatomical consideration while enucleation the cyst in mid-maxillary region which will help us to achieve profound local anesthesia. Local anesthesia remains the foundation of pain control in dentistry especially when combined with moderate-deep sedation for invasive and painful procedures. Local anesthetics remain the safest and most effective drugs in treating maxillary midline cyst to relieve intraoperative and postoperative pain. We found that patient compliance and appropriate anaesthesia technique has a lead role in success of the management of maxillary midline cyst.

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