Review Article

Management of Impacted 3rd Molar

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Abstract

The Simultaneous occurrence of impacted 3rd Molar is a comon phenomana, observed in both side of Maxilla and Mandible. One of the common complication of impacted 3rd molar is pericoronitis. Here we report a 23 years old young female with pericoronitis (infection near wisdom teeth) in the left lower molar region. She attended to the Khwaja Yunus Ali Medical College and Hospital (KYAMCH) Dental Out Patient Department (OPD) with severe toothache and swelling at the left lower Retro Molar region. After clinical evaluation routine investigations and a Dental Radiograph (Periapical view) were advised. The Dental Radiograph showed a wisdom tooth, almost unerupted horizontally placed, surrounding soft tissue revealed features of inflammation. With all these data we confromed her diagnosis as pericoronitis in the left lower molar region that is Retro Molar region. Patient was prescribed a course of antibiotics and analgesics and sent home. Later on surgical procedure was parformed and the patient recoverd. This kind of patient needs regular followup for known post surgical complications like trismus, Bruising, persistent abscess etc.

Keywords: *Pain on tooth, Pericoronitis, Retro Molar, Dental Radiograph.*

Introduction

Pericoronitis (Infection near wisdom tooth) is a dental disorder in which the gum tissue around the molar teeth, or any erupting tooth, becomes swollen and infected[1]. Most people are affected in their late teens or early twenties[2]. Pericoronitis can develop when wisdom teeth only partially erupt (Break through the gum)[3]. This allows an opening for bacteria to enter around the tooth and cause an infection[4,5]. In case of pericoronitis, food or plaque (A Bacterial film that remains on teeth after eating) may get caught underneath a flap of gum around the tooth[6,7]. If it remains there, it can irritate the gum and lead to pericorinitis[8]. If the pericorinitis is severe overlooked, the swelling & infection may extend beyond the jaw to the check and neck[9,10].

Symptoms of pericoronitis-

- Pain
- Swelling in the gum tissue - caused by an accumulation of fluid.
- A `bad taste' in the mouth caused by leaked pus from the gums.
- Swelling of the lymph nodes in the neck.
- Difficultly in opening the mouth.

The operator (dentist) examine patient's wisdom tooth to see how it is coming in, and determine it is partially erupted, patient takes a radiograph periodically to determine the alignment of the wisdom teeth. And also take note of any symptoms such as swelling or infection, and presence of a gum flap around a wisdom tooth.

Case presentation

A 23 years old young Female, Nondiabetic, Normotensive, House wife from Ghatail, Tangail, attended our Out Patient Department (OPD), HN: R140901108272 and CN:C141101206810, Khwaja Yunus Ali Medical College and Hospital (KYAMCH)

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on 14.11.2014 with the complaints of severe toothache and swelling at the left lower Retro Molar region. Before caming here she went to local doctor and received conservative management but could not relief. Here we took a Dental Radiograph (Periapical view) and do relevent other investigations.

The Dental Radiograph showed a wisdom tooth, almost unerupted, horizontally placed soft tissue around it showed features of inflammation. Patient had a 3 months old Orthopantomograph (OPG), where there was no features of inflammation. Only impacted 3rd molar was noted. We also advised routine investigations those reports were with in normal limit. We diagnosed this case as pericoronitis. Ideal/ definitive treatment of this disease process is surgical removal/extraction of this unerupted teeth. There fore we prepare tha parient for surgery. Usually these kind of patient need admission before surgery. But our patient was a young, healthy leady. Therefore we planned.

Review of literature-

(i). Wisdom tooth - A wisdom tooth or third molar is one of the three molars per quadrant of the human dentition. It is the most posterior (Most distal) of the three. Wisdom teeth commonly affect other teeth as they develop, becoming impacted or "coming in side ways". They are often extracted when this occurs.

(ii). Pericoronitis- (From the Greek *peri* "around", Latin *corona*" Crown" and *-itis*, "inflammation") Also known as operculitis, It is the inflammation of the soft tissues surrounding the crown of a partially crupted tooth.

(iii). Management-

- Conservative- In our case which is not effective.
- Surgical procedures- Stages in surgical procedures- It is convenient to consider oral surgery as an orderly procedure that follows a precise sequence of stages.

A. Pre operative care

B. Operative Procedure

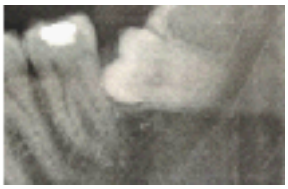
C. Post operative care

A. Pre operative care:
Before the operation, an initial appointment was made for medical history, treatment plan and radiograph which was done before. A decision is made regarding kind of anesthesia is to be given for the procedure. Local anesthesia -2% lidocaine, IV sedation/ oral sedation is to be given.

B. Operative Procedure
Local anesthesia mixed with adrenalin is given to numb the area around the tooth that has to be extracted. To remove the wisdom tooth we open up the gum tissue over the tooth, take out any bone that is covering the tooth, separate the tissue that is attaching the tooth to the bone and then remove the tooth. Sometimes the tooth is cut into smaller pieces to make it easier to remove. After the tooth is removed the wound is primarily closed with catgut/ vicryl. Vicryl needs to be removed after a weak of surgery. Catgut does not needed. A folded cotton gauge pad placed over the wound to stop bleeding.

Dental Radiograph:

Periapical View



Orthopantomograph (OPG)

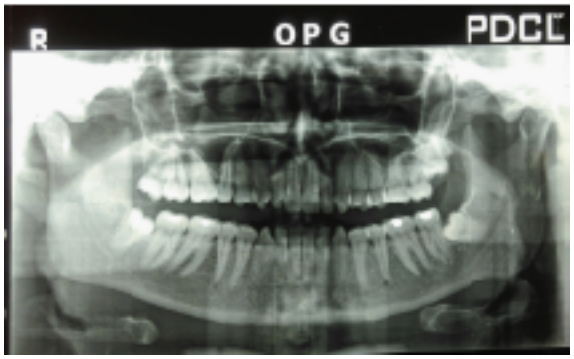


Table: Flow chart of the operative procedure

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Asepsis and Isolation
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Local Anesthetia and sedation
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Incision-Flap design
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Reflection of muco periosteal flap

Bone removal
↓
Sectioning (Division) of tooth
↓
Elevation
↓
Extraction
↓
Debridement & smoothening of bone.
↓
Control of bleeding
↓
Closure-Suturing
↓
Medication - Antibiotics, analgesics, etc.
↓
Follow up

Details of surgical steps-

- Cleaning solutions-used on skin only to remove residual soapsolution.

- Normal Saline

- Alcohol spirit

- Painting solution-act topically to inhibit further growth of microbes.

- Povidone iodine 5 % for skin, 1% for oral mucosa.

- After clen the incision site with normal saline L.A was introduced.

- Local anesthesia

- 2% lidocaine HCl with adrenaline 1:100000 was introduced to block the mandibular nerve. 3 cartidge was given.

Incision (Flap Design) - Anterior releasing incision should begin from the vestibule up-wards towards midway of the Cemento-Enamel Junction (CEJ) of second molar at an angle. Patient's third molar is deep so surgery requires more removal of bone, this incision should be placed anterior to the second molar. The incision is then continued in the gingival sulcus (over the alveolar west, as the tooth is fully embeded) upto the distal aspect of third Molar. Distal releasing incision is started from the distal most point of third molar across external oblique ridge into the buccal mucosa. This incision should not be taken on the lingual aspect of the ridge, as the lingual nerve can be found at or above the crest of the alveolar ridge, in approximately 17 percent of the population. However, the normal position of the lingual nerve is 2mm inferior to the crest and 0.5 mm lingual to the lingual cortex of the mandible in the third molar region. The length of this mucoperiosteal flap and the number of teeth included will be determined by the mount of exposure necessary to gain visibility of the region.

The incision should not be extended too far upward distally to avoid:

i. Intraoperative bleeding from the buccal vessels and branches from lingual and facial arteries.

ii. Post operative trismus due to cutting through the fibers of temporalis muscle.

iii. Herriation of buccal pad of fat into the surgical field.

The sharp point of periosteal elevator is used to carefully elevate a mucoperiosteal flap beginning at the point of the incision behind the second molar. The elevator is brought forward to elevate the periosteum around the second molar and down the releasing incision. The other flatter end of the periosteal elevator is then used to elevator the periosteum posteriorly to the ascending ramous of the mandible. Then the tooth is extracted by forceps and elevators.

C. Post-operative care

A sterile gauze pack is placed over the socket or over the sutured surgical wound site as the patient applies biting pressure to reduce bleeding.

To avoid complication of the surgery the following procedures should be done -

- Clean patients face.
- Reassure them that all went well.
- Provide the patient with an ice-pack.
- Assist the patient from the dental chair when she ready to leave.
- Ensure patient that she has verbal and written post-operative instructions.

Post operative instructions following oral surgery

- Avoid warm drinks and mouth rinsing for several hours to avoid disturbing the blood clot.
- Avoid hard and hot foods, alcohol and smoking for at least 24 hours.

- Ice pack application for at least 1st 30 minutes.
- Use specific analgesics e.g. caps. Ibuprofen 400 mg for the relief to post operative pain.

On the day following surgery the patient can -

- Start regular gentle mouth rinsing with warm saline or antiseptic mouth wash.
- Apply external warmth if there is still any swelling.

❑ Complication that are usually noted-

Swelling - Some degree of swelling will usually follow any soft tissue oral surgery. This is due to the trauma of the operation. This is most obvious immediately after the operation and should gradually subside.

Pain - Pain usually appears after extraction that is post operative pain. Usually pain can be controlled with normal analgesics.

Trismus - Trismus is a form of muscular spasm which may follow after oral surgery. It eventually disappears.

Bruising -. Patient should aware that this is not a sign of rough handing but it is simply internal hemorrhage at the time of operation fortunately it does not often occur.

- Secondary haemorrhage.
- Infections of wounds.
- Dry socket - This is a very painful condition. It is a localized.

Conclusion

Impacted 3rd molar teeth are common. Infection can involved both the side or any one side. Dental X-Ray is the main investigation to detect this pathology. Surgery is the effective treatment.

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