CASE REPORT

Prolonged Impacted Partial Denture in the Oropharynx during Pregnancy and Insights into Its Management- A Case Report

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Abstract:

A Partial denture is a problematic foreign body with high morbidity associated with removal. This is due to presence of sharp and curved clasp which can easily pierce and embed into the soft tissue. Any overzealous and forcible attempt at removal can lead to rupture of the hollow organ like Oesophagus with a fatal outcome.

Endoscopic removal of Denture must be attempted only in the Operation theatre. Excellent Anaesthesia and good visualization of the foreign body are mandatory for successful removal. Attempt must be made with a sound understanding of the shape of the denture and location of its embedding, forcible extrication without vision is never to be undertaken.

Key words:

Foreign body, Partial Denture impaction, Laryngoscopy, Rigid endoscopy

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Introduction:

Accidental ingestion of Partial denture is a dangerous problem in Otorhinolaryngology practice. It is usually seen in elderly patients but people are more likely to ingest or aspirate dentures, if consciousness is impaired by various reasons like alcoholic intoxication, seizures, drug addiction or general anaesthesia. [(1)]

Case report:

A twenty seven (27) year old, seven month gravida presented to our casualty department with history of accidental ingestion of partial denture of upper jaw frontal teeth. Allegedly, two days ago she developed giddiness while walking inside her home, she fell on the floor and found her denture missing. She could not confirm that she swallowed it as she was unconscious. She consulted a local general practitioner, who referred her to the clinic of the local Otorhinolaryngologist.

Patient consulted the local Otolaryngology specialist who did an Indirect Laryngoscopy and noted that the foreign body was impacted in the Vallecula (Oropharynx), attempted to extricate it and failed. He in turn referred her to another hospital for removal. At the second hospital an attempt was made at removal in sitting posture and it was found that the Denture had embedded itself into the tissue of Oropharynx. Thus, patient a seven month old heavy gravida mother was shunted from hospital to hospital for 2 day with a minimum sustenance of fruit juice.

Patient arrived at our hospital in a toxic, dehydrated and fatigued state. She was immediately resuscitated with plenty of intravenous fluids, intravenous antibiotics, on-call Obstetrician confirmed the well being of the unborn child, after which then a gentle examination of Oropharynx was done. We found that the denture clasp was protruding from behind the Left tonsil. We made a gentle attempt to dislodge it but it was immobile and embedded in tissue of the Vallecula. Further attempts were deferred in view of the poor general condition and distress of the patient. Situation was explained to her relatives and counselling was done. We obtained high risk consent before proceeding to immediately shift the patient to our Operation theatre.

Anaesthetist on duty examined her. He opined that these was practically no access to airway as Nasopharynx and Oropharynx both were occluded by the foreign body and there was no space even a for a Laryngeal Mask Airway insertion. He suggested that we attempt under mild sedation and immediately proceed to Emergency Trachostomy if patient warranted. The need for Emergency

Trachostomy was also explained to the relatives before starting the case.

After effective sedation of the patient we proceeded to do a Direct Laryngoscopic examination. The opposite end of the denture was found embedded in the soft tissue of Vallecula. Instead of attempting to pull the clasp forward like most of our predecessors, we rotated the denture holding the visible clasp as a fulcrum, with a heavy tonsillar artery forceps. This freed the embedded end from the tissue and we delivered the foreign body.

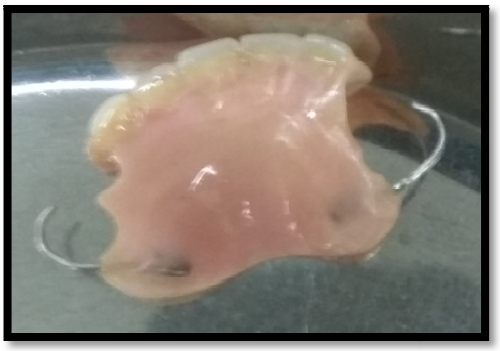

Figure 1. The Denture was impacted in vertical position with one clasp visible behind the left tonsil. Foreign body was delivered by disimpacting it from Vallecula by horizontal traction thus freeing the other clasp from being in embedded soft tissues. This was accomplished by excellent anaesthesia which reduced the patient mobility, distress and good direct visualization using a Laryngoscope.

We gave patient was a short course of Corticosteroids and watched for any airway obstruction for two days. We ascertained the health of foetus with the Obstetrician on daily basis. We discharged her after three days of rest and her Post operative period was uneventful.

Discussion:

Foreign body ingestion can happen without the knowledge of the patient especially if they are unconscious due to any reasons like alcohol intoxication. Most patients present with symptoms of Odynophagia, Dysphagia, Drooling, Stridor, Cough, Chest pain, Vomiting, Hemoptysis and Gagging. [1]

A Partial denture is a special problematic foreign body with high morbidity associated with removal. This is due to presence of sharp and curved clasp which can easily pierce and embed into the soft tissue. Any overzealous and forcible attempt at removal can lead to rupture of the hollow organ like Oesophagus with a fatal outcome. Notoriety of partial denture is added to the fact that denture may also be Radio-lucent thus invisible on an X-Ray. The only tell-tale evidence may be a column of air visible in the proximal oesophagus and widening of the Prevertebral soft tissue shadow. [2] Calcified

stylo-hyoid ligament, cervical osteophytes, long styloid process, calcification of laryngeal cartilages- Arytenoid, Thyroid, Cricoid can appear to stimulate a foreign body. [3]

Literature on good clinical practice recommends Emergent endoscopy in suspected Sharp foreign bodies and button batteries as these have high morbidity.[4] Partial denture comes in category of sharp foreign body due to presence of sharp clasps.

Tongue base and Vallecula foreign bodies account for about 15% of cases of foreign body ingestion. [5] The most likely site for lodgement of a foreign body that has been displaced from Oral cavity like a denture or a fish bone is the Crypta magna of the tonsil, followed by the epiglottic Vallecula, the Pyriform sinus and Post cricoid region. If the foreign body cannot be located by Video-endoscopy in these four key areas, it should be assumed that it has either entered Oesophagus or Right main bronchus. [6] Once a foreign body has reached the stomach, it has a high chance of passing through the intestinal tract without complication. This applies even to sharp foreign bodies like, for example pins and glass pieces. [7]

Food impaction in oesophagus is not a problem in normal adult population but common in elderly. Age related reduced peristalsis, Strictures due to chronic reflux, Eosinophilic Oesophagitis and Malignancy all may lead to food impaction. Glucagon, Effervescent drinks like Fanta, Proteolytic enzymes and Buscopan have been used to dislodge impacted bolus.[8]

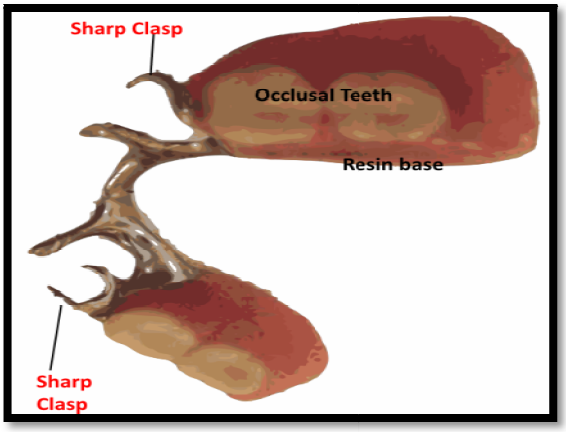

Figure 2. A Partial denture showing sharp claps which makes this foreign body notoriously difficult to manage as the clasps tend to pierce and embed into the surrounding tissues.

Partial dentures are classified using Kennedy-Applegate classification and the Partial removal denture in our case was a Class IV (Single Edentulous Area Anterior to Remaining Teeth and Crossing the Midline). The above figure shows the picture of a similar Partial denture.

The incidence of complications of this type of foreign body is directly related to the duration of impaction. Even a small foreign body can lead to a variety of complications

like Oesophageal erosion, Retropharyngeal abscess, Parapharyngeal abscess, Perforation of Oesophagus, Aorta, Pericardium and Gastrointestinal tract. Possibility of damage to adenxa must always be borne in mind. Endoscopic removal of dentures carries a high risk of perforation. [9] Minor perforations of the cervical Oesophagus produced by impalement by sharp foreign bodies like Clasp of dentures or Iatrogenic by Laryngoscopy or Oesophagoscopy or Hypopharyngoscopy can be managed by observation, nil oral intake and intravenous antibiotics. Presence of neck emphysema and retrosternal pain is strong indicator pointing towards perforation. Ryle's tube must be inserted immediately and patient admitted in Intensive care unit. [10]

Prevention is always better than cure; Dentures must be avoided if possible and must be fitted precisely. Surrounding teeth which hold the clasps must be periodically inspected for erosion. Persons with strong risk factors like frail elderly, alcohol addicts, seizure patients, pregnant mothers, chronic vertigo, drug abuse, undergoing major surgery or intubation must defer from using dentures. There is plenty of other, better and less risk alternatives to dentures like Implantable screws which may be used in such patients. [11]

Dedication:

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