



CASE REPORT ON EAGLE SYNDROME

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ABSTRACT

Mrs. 'X', 45 years old was admitted to hospital OPD, Jodhpur with a complaint of pain at neck region and sensation of firm mass on Right neck region since one year. She stated a complained of burning sensation in throat; pain while swallowing and speaking since 3 last months. She has been diagnosed with eagle syndrome after a thorough physical examination and had undergone a series of diagnostic evaluation. Radiography was done for the patient and observed an excessive elongation and fracture of the styloid process. After admission, she was under medication therapy from the last 2 weeks but doesn't show any improvement; only symptomatic relief was present, the prognosis was very poor. Even after taking medication therapy, she was suffering from continuous pain on neck and the intensity increases while swallowing food and saliva. After that the patient was finally planned for surgical tonsillectomy surgery and intra-oral transphenoidal approach. Post-operative, the prognosis of the patient seems to be improved and is continuing with the treatment and also coming to hospital for follow up.

Key words: Eagle syndrome, Tonsillectomy, Radiotherapy, Intraoral transphenoidal approach, Stylohyoid ligament, Otolaryngologist.

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INTRODUCTION

Mrs. 'X' 45 Year old was admitted in Jodhpur hospital on 1st September 2016 with a complaint of pain in right neck region and sensation of firm mass on neck region since 1 year. Before 3 months, she suddenly develops pain, having difficulty in swallowing. Earlier she was seeking treatment from many hospitals but no improvement was seen; only symptomatic relief was present. After that she got admitted in hospital, Jodhpur and she had undergone a series of diagnostic evaluation; physical assessment and finally was diagnosed with eagle syndrome. The diagnostic evaluation such as complete blood count, kidney function test and radiography was suggested by the otolaryngologist consultant. She was taking drugs such as injection Augmentin 1gm, Injection, Dynapar AQ and Injection Pantop was prescribed for 2 weeks. After that, a surgery was planned for tonsillectomy and intraoral transphenoidal approach.

The family history of the patient reveals that her father and mother died due to paralysis but doesn't have any congenital and no specific history of here ditary

medical condition such as hypertension, diabetes mellitus etc.

DEFINITION

Eagle syndrome is a rarely occurring condition which is characterized by pain in neck related to excessive elongation of styloid process and calcification of stylohyoid ligament. Pain is characterized by sharp and stabbing related to swallowing and neck mandible movement. The pain radiates from the floor or angle of the mandible to tonsillar fossa and leads to temporomandibular joint and base of the tongue. The eagle syndrome was first introduced by otolaryngologist Watt.W. Eagle and was named after him after a report on 200 affected patients was published in 1937 [1].

INCIDENCE

Eagle syndrome affects 4% of the total population and the elongated length of Styloid process ranges from 3 to 4 cm. It is also reported in 18 to 84% of



population with advancement in age. As this condition is asymptomatic but can show symptoms in less than 10% of patient suffering from this condition [2]. The mode of surgical treatment of the condition is by use of intraoral or extraoral approach. It can be done by injecting local anesthetics in the stylohyoid ligament to control some of the symptoms such as pain in ear, dysphagia and

headaches.

TYPES

Eagle syndrome is also name as stylohyoid syndrome, DISH(Diffuse intosseous skeletal hypertrophy) and carotid artery syndrome. It can be classified into three types:

BOOK PICTURE	PATIENT PICTURE
<p>CLASSIC EAGLE SYNDROME: It is characterized by unilateral pain, which is present in one side of the neck but rarely bilateral. Pain is mainly caused due to compressive cranioneuropathy, most commonly leading to sensation of foreign bodies in throat, odynophagia and dysphagia [3].</p> <p>VASCULAR OR CAROTID ARTERY SYNDROME: Occurs due to excessive elongation of styloid process compressing the internal carotid artery which is present below the skull and can cause compromised blood supply,may lead to complicated condition such as Transient Ischemic Attack (TIA) or stroke.</p> <p>TRAUMATIC EAGLE SYNDROME: Develops after fracture of mineralized styloid ligament and styloid process.</p>	<p>The types of eagle syndrome condition which the patient was suffering were both classic eagle syndrome with traumatic eagle syndrome. Pain at right side of neck with increase in intensity due to movement and swallowing of saliva and food. Radiotherapy reveals the presence of elongation and fracture of styloid process and stylohyoid ligament.</p>

CAUSES/ETIOLOGY

BOOK PICTURE	PATIENT PICTURE
<ol style="list-style-type: none"> 1. It mainly affects women in comparison to men. Main causes may be excessive deposition or mineralization of calcium due to increase intake of calcium, causing excessive mineralization or bone formation in the styloid process. 2. Associated with tonsillectomy due to frequent nerve irritation 3. Compression of adjacent nerve or blood vessels. 	<ol style="list-style-type: none"> 1. The etiology in patient was due to excessive mineralization of calcium and tonsillitis. 2. Gender was also one of the factor for causing the condition.

CLINICAL MANIFESTATIONS

BOOK PICTURE	PATIENT PICTURE
<ol style="list-style-type: none"> 1. Age is mostly risk with increase or advance in age. 2. Sign: can be visualized during physical assessment and can also be palpated in pharyngeal area. 3. Symptoms : Facial pain, mainly during neck movement in turning and swallowing or while opening mouth which is characterized by stabbing and sharp pain especially starts in tonsillar fossa. 4. Associated symptoms: Dysphagia,otalgia,dysphonia,dizziness, syncope,headache, transient ischemic attacks are also some common clinical manifestation. Trismus may progress slowly, voice changes, unilateral pain (facial), sinusitis, ear soreness. Sensation of foreign bodies objects in throat, excessive 	<ol style="list-style-type: none"> 1. Advanced age. 2. Pain in neck region and sensation of mass in neck region which was unilateral on right side. 3. Pain intensity increased with neck movement and while swallowing food and saliva. 4. Burning sensation in throat. 5. Difficulty in speaking.



<p>lacrimation. Ringing and buzzing in the ears and blood shot eye, tear inside blood vessels. Decrease blood supply to brain leads to Stroke or Transient Ischemic Attack.</p>	
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DIAGNOSTIC EVALUATION

BOOK PICTURE	PATIENT PICTURE
<p>1. A thorough history collection and detailed systematic physical examination. 2. Corticosteroid can be used either for diagnostic evaluation as well as treatment purpose [4] 3. A hands on approach can used for post-surgical pain of the patient. This approach is done by using passive movement of temporal bone and hyoid bone along with neurodynamic of hypoglossal nerve to relieve pain and may be confused with facial neuralgia. 4. X-ray and CT-scan with 3D reconstruction is also recommended to visualize the enlarged styloid process and adjacent soft tissue trauma of neck. Diagnosis for classic syndrome is easy because of the presence of unilateral facial pain and the elongated styloid process can be easily palpated but for vascular eagle syndrome it is difficult to diagnose. We must consult a specialist neurologist and see presence of any vascular compromised symptoms such as dizziness, headache, fainting etc. To optimize the diagnosis, posterior anterior skull radiography with low exposure and a computer tomography must be done to find the presence of synovial fluid, fragments which may be enlarged by proliferation.</p>	<p>1. A thorough history and physical examination was done. Tenderness and mass was present in right neck region while doing palpation of neck. 2. Fasting Blood sugar=99mg/dl 3. Hemoglobin=11.2g/dl 4. Urine microscopy: • PH=6.0 • Specific gravity=1.015 • Protein=Nil • Ketone=Nil • 2-4 epithelial cell and • 6-8 pus cell 5. Creatinine=0.57mg/dl 6. X-ray shows elongation and fracture of styloid process.</p>

MANAGEMENT

BOOK PICTURE	PATIENT PICTURE
<p>1. TOPICAL ANESTHESIA: Application will not fully relieve pain but infiltration of a local anesthesia around the styloid process may provide relief. 2. CORTICOSTEROID INJECTION: local injection of corticosteroid sometimes provides relief. Dexamethasone—at initial dose of 6mg IM and later on for maintenance dose, it is increased up to 9mg/day in maximum. Hydrocortisone of 25mg (1ml) diluted with 1ml and 0.25% of lidocaine or other local solution is injected close to styloid process. Antiepileptic preparations—which is a conservative treatment 400mg of carbamazepine per day at initial dose and is increase up to 600-800 mg/day, last for 2 to 3 weeks. 3. SURGICAL MANAGEMENT: Surgical segmentation or resection of the elongated styloid process. Styloidectomy :it is of two approach [5]. a. Intraoral transpharyngeal approach: ✓ Is mainly done after tonsillectomy ✓ Risk of deep cervical infection is more in intraoral approach. ✓ Scar formation is minimal ✓ The operative field is restrictive. b. External transcervical approach: ✓ Presence of cutaneous scar</p>	<p>1. Surgical management such as Tonsillectomy was performed with intratranspenoidal approach. 2. Antibiotic therapy i.e. Tab. Augmentin 1gm was prescribed to the patient. 3. Low calcium diet was recommended. 4. Injection Dynapar, BD was also prescribed to control pain due to surgical incision. 5. Injection Pantop 40mg, OD, was also prescribed to the patient. 6. Advised to gargle with hydrogen peroxide (1:3) which is an antiseptic after taking meal to prevent infection in the suture line.</p>



✓	Facial nerve injury risk is more	
✓	Decreased risk of deep space neck injection	
✓	Better visualization of surgical field.	

NURSING DIAGNOSIS

1. Acute pain related to compression of bone and adjacent tissue as manifested by verbalization of patient in the pain scale.
2. Imbalanced nutrition less than body requirement related to difficulty in swallowing food manifested by weakness and loss of weight.
3. Disturbed sensory perception, auditory conductive hearing loss related to inflammation associated with hearing as evidenced by decrease hearing and frequently repeated asking during interaction.
4. Risk of injury related to vertigo.
5. Risk of infection related to surgical procedures.
6. Impaired swallowing related to surgical incision (tonsillectomy) as manifested by decrease in intake of food.

NURSING INTERVENTIONS

1. Instructed to gargle with hydrogen peroxide (1:3 solution).
2. Instructed to maintain hand hygiene properly before eating and after toileting to prevent infection.
3. Provided food, semi-solid food with less spices to prevent irritation to throat while swallowing food.
4. Provided food in a small quantity but frequently.
5. Maintained a normal room temperature and provided a calm and quite environment to prevent anxiety due to hospitalization.
6. Administered drugs which are prescribed for the patient.
7. Monitor the vital signs frequently every 1 hourly immediately after surgery.

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8. Monitor the patient after surgery for any sign of complications.
9. Closed monitoring and inspect the surgical site for any sign of infection.

PROGNOSIS

The prognosis of the patient was good after the surgery and she was responding with the medication prescribed. The patient is continuing with the treatment plan and soon going to be discharged. She was instructed for follow up check and health education was provided regarding the therapeutic regimen which needs to be followed at home.

COMPLICATIONS

No such complication was developed for the patient. But complication which may be developed if not treated initially are Fracture, Transient Ischemic Attack(TIA), Stroke, cerebral palsy, rigid neck etc.

STATEMENT OF HUMAN AND ANIMAL RIGHTS

All procedures performed in human participants were in accordance with theethical standards of the institutional research committee and with the 1964Helsinki declaration and its later amendments or comparable ethicalstandards. This article does not contain any studies with animals performed by any of the authors.

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Nil

CONFLICT OF INTEREST

No interest

