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Universal Neonatal Auditory Screening Program in Pakistan - A need of time

Iqbal Hussain Udaipurwala

Hearing is the most significant and essential among all the five senses gifted by God to human beings. Congenital hearing loss is one of the most frequent congenital defects with a incidence of about 30 per 10,000 children¹. Significant hearing loss is occurring in 1 to 2 newborns per 1000 in the general population, and 24% to 46% of newborns admitted to neonatal intensive care unit^{2,3}. Hearing loss or impairment is associated with substantial social and psychological consequences. Failure to detect children with congenital or acquired hearing loss may result in lifelong deficits in speech and language acquisition, poor academic performance and personal, social or behavioral problems^{4,5}. Lack of auditory stimulation leads to retrograde degeneration in the cell body and axons of the auditory pathway⁶. Normal speech and language development depend upon a child's ability to hear spoken language and early infancy is the most appropriate time to acquire the foundation of language and communication. The most imperative period for language and speech development is largely regarded as the first three years of life⁷, so, early detection and early identification of hearing loss is very crucial and fundamental. This should be followed by a timely and effective therapeutic intervention and rehabilitation programs to minimize the negative effects of hearing loss on the development of cognitive, psychosocial and verbal communication skills and social interactions. Early intervention by hearing rehabilitation gives positive results in language development. Children undergoing hearing rehabilitation before 11 months of age have a stronger vocabulary and verbal reasoning skills at 5 years of age than those intervened later⁸. Thus, early identification followed by proper intervention as early as six months of age results in essentially normal language acquisition later and minimizes the negative effects of hearing loss^{9,10}. In contrast, a delay in detection of up to 2 to 4 years may result in delayed language acquisition.

World Health Organization estimates that 278 million people worldwide have disabling hearing impairment and two-thirds of these people live in developing countries of which about 50 percent can be prevented¹¹. Hearing loss in newborns and infants are not readily detectable by routine clinical procedures and behavioral observation, although parents often report the suspicion of hearing loss, inattention, or erratic response to sound before hearing loss is confirmed¹². Regardless of the screening method chosen, hearing screening, though critical, is only the first stage of a comprehensive early intervention plan. Screening alone is useless unless appropriate diagnostic testing services and high-quality amplification and rehabilitation services are in place and are implemented in a timely fashion. Early screening does not substitute for further periodic childhood hearing screening. The universal neonatal hearing screening (UNHS) is aimed to identify babies with moderate to profound hearing impairment at birth¹³. It must be considered as a first step of a program for the identification, diagnosis, treatment and habilitation/rehabilitation of children with hearing impairment. Progressive or late onset hearing loss represents a relatively large proportion of childhood deafness and may be not identified by the screening. To early identify those cases, an audiological follow-up program is necessary, as well as an audiological surveillance protocol¹⁴. Universal Neonatal Hearing Screening uses electrophysiologic measurements of evoked otoacoustic emissions (OAE) and/or auditory brainstem responses (ABR) to detect hearing loss in newborns and infants. Vibrations of the outer hair cells in the healthy inner ear generate electrical responses that are radiated back through the middle ear to the external canal. Although most normal ears yield OAE, the likelihood of obtaining a response decreases rapidly in the presence of a permanent sensory hearing loss of 30dB or greater. Automated ABR (AABR) screening is

an adaptation of conventional ABR testing, which is a widely accepted as gold standard measure of hearing sensitivity in newborns and infants.

Both AABR and AOAEE are non-invasive, rapid screening tests that are rapid and can be performed at the bedside in inpatient or outpatient settings, in term and preterm newborns. The tests are performed on any newborn who is asleep, or at least at quiet rest, in a moderately quiet test environment. Both provide measurements of physiologic activities that are easily recorded in newborns and that correlate highly with the degree of peripheral hearing sensitivity. They are not mutually exclusive, but complementary to each other. Many countries have implemented UNHS as part of early identification and intervention programs. Prior to the implementation of UNHS, only newborns identified as being at high risk such as those in NICU, were screened. In comparison to the resources required for UNHS, substantially fewer resources are required to screen only the high-risk group. However, a major limitation of selective or targeted screening is that as many as 50% of infants with congenital permanent hearing loss have no known risk factor. The relatively high incidence without known risk factors, and the introduction of new and automated screening technology over the last 20 years, has led prestigious bodies in many countries worldwide to recommend UNHS as an alternative to selective/targeted screening. Since 2007, the development and implementation of sophisticated physiological hearing screening techniques has contributed to the feasibility of UNHS worldwide. An increasing number of countries with different healthcare systems and different economic and social circumstances have implemented or are in the process of implementing UNHS programs.

Very few studies are carried out in Pakistan about the auditory screening program in neonates^{15,16}. Congenital hearing loss is typically predominant in low-income population. Annually, about 740,000 children (roughly six per 1,000 live births) are detected to have sensorineural hearing impairment in low and middle-income class countries as compared with 28,000 (around two per 1,000 live births) in high income class countries¹⁷. So, it is the time to start universal neonatal hearing screening program all over the Pakistan. It may be difficult to start this program in every hospital and maternity center, but at least one dedicated center can be developed in each region or area that can perform screening of all newborn babies in that locality.

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Experience of Managing Pleomorphic Adenomas of Salivary Gland at Nawabshah

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ABSTRACT : OBJECTIVE: To evaluate frequency of distribution and surgical management of pleomorphic adenomas (PA) of salivary glands at Peoples University of Medical and Health Sciences-Nawabshah. **SUBJECT AND METHODS :** This is a retrospective analytical study carried out at department of ENT, Head and Neck surgery of Peoples University of Medical and Health Sciences, Nawabshah from March 2014 to March 2016. Patients of any gender and age group with the clinical diagnosis of PA from any of the salivary glands were included in the study. Patients with previous surgery for PA and with cytologic or histopathology evidence other than PA were excluded. **RESULT :** Total of 32 patients with age ranging from 15 to 85 were included and analyzed. Out of these 15 were males and 17 were females. It was found that PA arising from parotid gland in 25 patients, from submandibular gland in 4 patients, from minor salivary glands of palate in 2 patients and in one case it was arising from upper lip. Out of 25 PA arising from parotid gland 20 were found to involve superficial lobe, 04 involved deep lobe and in one patient it was involving both superficial and deep lobe. In 18 cases, superficial parotidectomy was performed, 4 underwent wide local excision while 03 underwent total conservation parotidectomy. Complications found in immediate postoperative period include facial nerve palsy in 06 cases with marginal mandibular nerve paresis in 15 cases, 03 patients had flap discoloration and 3 patients complained of numbness around pinna. Submandibular gland excision was performed in all four cases with PA of submandibular gland. Out of these 03 developed marginal mandibular nerve paresis while one developed haematoma. Wide local excision was performed in 02 patients of PA of palate out of which one patient developed palatal fistula. Excision of PA of upper lip in one patient was done uneventfully without any complication. **CONCLUSION :** Pleomorphic adenomas of the parotid gland are the commonest tumor mostly involving superficial lobe and the excision is usually associated with facial nerve paresis. PA involving submandibular gland require complete excision of the gland while PA of minor salivary gland requires wide excision. **Key Words :** Pleomorphic adenoma, Parotid gland, Submandibular gland, Minor salivary gland, Superficial parotidectomy.

INTRODUCTION : Pleomorphic adenoma (PA) is the most common benign salivary gland tumor. It is frequently arises from parotid gland. It may also occur in submandibular, sublingual and minor salivary gland. The highest incidence is between 30-60 years of age with female preponderance. It usually presents as a painless slow growing mass with variable duration of symptoms¹⁻⁴. Pain, sudden increase in size, involvement of facial nerve or overlying skin signifies malignant transformation³⁻⁵. About 3 to 4% of PA can transform into carcinoma ex-pleomorphic adenoma¹⁻³. Histologically, PA is an epithelial tumor of complex morphology having epithelial and myoepithelial elements arranged in a variety of patterns surrounded by mucopolysaccharide stroma²⁻⁶. Surgical resection is the treatment of choice. The extent of resection varies from enucleation to total parotidectomy depending on the extent of PA in Parotid gland^{7,8,9}. In PA involving submandibular salivary gland requires excision of gland along with tumor. Similarly PA

of other salivary gland requires wide excision². The objective of this study is to evaluate frequency of distribution and surgical management of pleomorphic adenomas of salivary gland at People University of Medical & Health Sciences-Nawabshah.

SUBJECTS AND METHODS: This is a retrospective study in which the medical records of the cases with the pre-operative diagnosis of pleomorphic adenoma undergone surgery from March 2014 to March 2016 were reviewed and analyzed. A total of 43 patient's undergone surgery with pre-operative diagnosis of PA out of which 11 patients were excluded as histopathology reports of 06 patients was missing from the record and 5 cases had postoperative histopathology report other than PA. The remaining 32 patients were included in the study. The data was compiled on preset guidelines and analyzed.

RESULTS : Out of total 32 patients included in this study 15 were males and 17 were females with male to female ration of 1:1.1(Fig-1). The age range

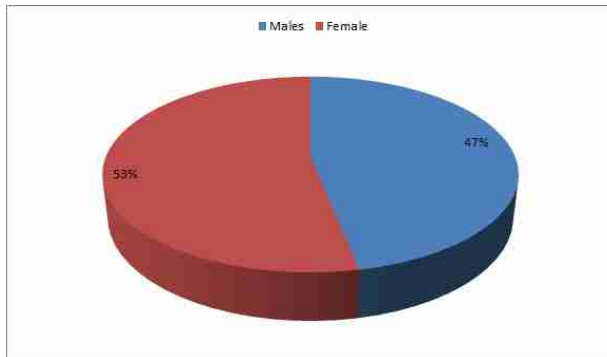


Figure 1 : Gender distribution.

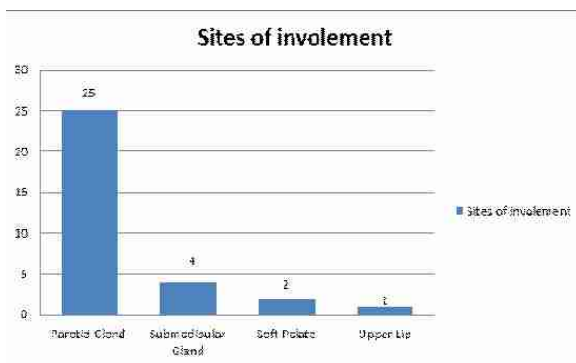


Figure 2 : Sites of involvement.

of the included patients varies from 15-85 years with the mean age of 37 years. The maximum numbers of patients were in 04th decade (Table-1). PA presented as painless, slow growing firm swelling in all patients. It affected parotid gland in 25 patients, submandibular gland in 04 patients minor salivary glands of palate in 02 patients and 1 patient had it in upper lip (Fig-2). Duration of the symptoms varied from 03 month to 20 years and the mean duration was 2.68 years.

In PA of the parotid gland the tumor was found to arise from superficial lobe in 20 patients, deep lobe in 04 and 01 patient had both superficial and deep lobe involvement. Eighteen patients underwent superficial parotidectomy, 4 underwent wide excision and 3 underwent total conservative parotidectomy (Table-2). Postoperatively 06 patients had facial nerve palsy of different grades, 15 had marginal mandibular nerve paresis, 03 had flap necrosis and 02 had numbness around pinna. All 04 patients having PA submandibular salivary gland underwent excision of gland out of these 03 developed marginal mandibular nerve paresis and one patient developed hematoma due to accidental extrusion of drain. (Table-3)

DISCUSSION : Pleomorphic adenomas are the most common benign salivary gland neoplasm. It accounts for 60 to 70% of all parotid

Age of the Patient	No. of the Patients
10-20	4
21-30	9
31-40	10
41-50	5
51-60	1
61-70	2
>70	1

Table 1 : Age Ranges.

Lobes Involved	No. of Cases	Extent surgery	No.
Superficial Lobe	20	Superficial	18
		Parotidectomy	
Deep Lobe	04	Wide Excision	04
Both	01	Total Conservative	03
		Parotidectomy	
Total	25	Total	25

Table 2 : Extent of involvement in Parotid & type of surgeries performed.

Complication	Parotid Gland	Submandibular Gland
Facial Nerve Palsy	06	-
Marginal Mandibular Nerve Paresis	15	03
Flap Discoloration / Necrosis	03	-
Numbness around Pinna	02	-
Haematoma	-	01

Table 3 : Postoperative Complication.

neoplasias, 40 to 60% of all submandibular neoplasias and 40 to 70 % of minor salivary gland neoplasias⁴. Eveson and Cawson evaluated 2410 tumors of salivary glands of which 1408 were pleomorphic adenoma. Amongst them, parotid gland was involved in 63.3 cases, submandibular glands in 59.5% cases and minor salivary glands in 42.9% cases¹⁰. Chidzonga et al also found comparatively higher prevalence of parotid gland pleomorphic adenoma (39.8%) as compared to the prevalence in minor salivary glands (37.9%) and submandibular gland (22.3%) amongst 206 cases of pleomorphic adenoma¹¹. In our study, the parotid gland pleomorphic adenoma was higher in number (n-25) as compared to the submandibular gland (n-4) and minor salivary gland pleomorphic adenoma (n-3). These findings co-relate with other studies. In case of pleomorphic adenoma of the parotid gland, 80% of the tumor arises from superficial lobe and 20% from deep lobe of parotid³. Laskawi et al found the tumor arising from the superficial lobe in 77 patients, from deep lobe in 14% and 8% from both superficial and deep lobe amongst 475 patients who underwent surgery for parotid pleomorphic adenoma⁷. In our study also, the tumor was found to be arising frequently from the superficial lobe (n-20) rather than from the deep lobe (n-4) or from both superficial and deep lobe simultaneously (n-1). These findings

are consistent with other reported studies. PA frequently occurs between the ages of 30 to 60 years of age. The mean age of presentation is 36.3 years^{1,4}. In our study, the mean age was 37 years. On further division the mean age of parotid pleomorphic adenoma is 46 years while that of submandibular gland is 6th decade³. In our study, pleomorphic adenoma in parotid gland was seen in mean age of 34.5 years and in submandibular gland in 50.5 years. These findings are in accord with reported literature. Pleomorphic adenoma is commonly found in females than in males^{1,3,4} with the male female ratio varying from 1:1.4 to 1:1.7.^{1,3} In our study, the male female ratio was 1:1.1. Painless slow growing mass is the frequent presentation of pleomorphic adenoma. The firmness of the pleomorphic adenoma varies with the nature and the amount of the stromal component. So, it ranges from soft in the case of the more mucinous tumors to hard in tumors with extensive chondroid or collagenous component³. All patients in our study presented with painless, slow growing swelling which was firm in consistency. The duration of symptoms may vary ranging from 1 month to 34 years with the mean duration of 5 years¹. In our study, the duration of the symptom varied from 3 months to 20 years and the mean duration was 2.68 years. In our study findings differed from the reported studies. The treatment of choice for pleomorphic adenoma is surgical excision^{7,8}. The surgical techniques vary from enucleation to total parotidectomy in parotid pleomorphic adenoma^{7,8,9}. Enucleation involves shelling out of the tumor. Superficial parotidectomy or lateral parotidectomy removes parotid tissue lateral to facial nerve^{10,11,12}. Partial superficial parotidectomy dissects the tumor along with 2 cm margin of surrounding parotid tissue without sacrificing normal parotid tissue except when the tumor abuts the facial nerve. Extracapsular dissection involves meticulous hemostasis and dissection of a small cuff of normal parotid parenchyma just outside the capsule of the parotid tumour. Total parotidectomy removes all parotid tissue lateral and medial to facial nerve⁸. The tumour has to be excised in its entirety with an adequate margin to avoid recurrences^{7,12}. It is so because the pleomorphic adenomas are enclosed by a layer of fibrous tissue usually termed as capsule. This capsule might be very thin and the tumour buds may extend through it^{12,13}. The recurrence rate declined from 20% to 45% in the period of enucleation to 2% to 5% with the introduction of lateral parotidectomy¹⁴. There are nine times more chances of likely recurrence following enucleation, compared to superficial parotidectomy⁸. Superficial parotidectomy has been advised by many authors for the treatment of pleomorphic adenoma of the superficial lobe of parotid^{7,9,12}. This procedure has been considered so efficient by some authors that long term follow up following superficial parotidectomy is regarded

as unnecessary provided adequate excision with intact capsule has been done⁹. O'Brien preferred limited superficial parotidectomy over complete superficial parotidectomy for previously untreated localized parotid tumors lying superficial to the plane of the facial nerve⁵. He emphasized on exposing the main trunk of the nerve in every case but close dissection of only the branches immediately adjacent to the tumor. He reviewed 363 parotidectomies performed for benign parotid tumors over a period of 14 years. His result showed that limited superficial parotidectomy was associated with low morbidity (2.5% permanent facial palsy) and low recurrences (0.8%). Piekarski et al reported 10 years local control rate of 58% in the series of 98 patients with parotid pleomorphic adenoma treated with extracapsular dissection. The authors do not recommend this procedure for pleomorphic adenoma owing to high recurrence rate⁹. For the tumor arising from the deep lobe of the parotid, near total conservative parotidectomy is preferred but it is associated with higher chances of temporary facial nerve weakness⁵. Laskawi et al carried out a retrospective study on the three methods of surgical management namely superficial parotidectomy, total parotidectomy and enucleation for pleomorphic adenoma of the parotid gland. Records of 475 patients were evaluated of which 223 patients were followed up for a mean period of 63 months. Comparing the three types of surgery, one recurrence (0.7%) was found after superficial parotidectomy (n=139), none after total parotidectomy (n=60) and one (7.2%) after enucleation (n=14). Persistent dysfunction of the facial nerve occurred in 1.4% after superficial parotidectomy and 3.3% after total parotidectomy. Frey's syndrome developed in 14% after superficial parotidectomy and 17% after total parotidectomy. A persistent parotid duct fistula was noted in 4% cases. The authors agreed on the low rates of multicentricity of the tumor and disregarded total parotidectomy as the only method to treat pleomorphic adenoma irrespective of its location within the gland⁷. Low rates of complications and recurrence following superficial parotidectomy favors this procedure over total parotidectomy. Submandibular pleomorphic adenoma requires total submandibular gland excision along with the tumor to avoid recurrences^{4,12}. Some surgeons prefer suprahyoid node dissection and soft tissue clearance in cases of diagnostic uncertainty¹². The exact cause of recurrence in pleomorphic adenoma is controversial. Intra-operative tumor spillage is believed to be the main cause of local recurrence but several studies have suggested incomplete initial resection to be the principle cause⁵. Natvig and Soberg found recurrence rate of 8% after capsule rupture and 2% in those without capsule rupture in a study which included 238 patients with an average observation time of 18 years¹⁴. In our study, patients with parotid

pleomorphic adenoma, 18 underwent superficial parotidectomy, 4 underwent wide excision and 3 underwent total conservative parotidectomy. All patients with submandibular gland pleomorphic adenoma underwent excision of gland along with the tumor while palatal and lip pleomorphic adenoma underwent wide excision. Complications like marginal mandibular nerve paresis, facial palsy of grade 2 to 4, flap necrosis and numbness of ear lobules were noted following some form of parotidectomy, marginal mandibular nerve paresis following submandibular gland excision and palatal fistula following excision of pleomorphic adenoma soft palate. The recovery of these complications and detection of any other new complications could not be assessed due to poor patient follow up. It is assumed that these complications could have recovered with time as patients here usually do not visit the hospital unless they have a problem. Salivary gland surgeons require precise capsular dissection especially where facial nerve is apposed to avoid capsular rupture and neural injury. Parotidectomies of whatever form should ensure at least some adequate tissue margin around the tumor¹².

CONCLUSION : Pleomorphic adenomas are the most frequent benign salivary gland tumour commonly arises from parotid gland. Superficial parotidectomy sufficed in most cases. However, total parotidectomy may be required if the tumour involved the deep lobe. PA of submandibular gland occurs less frequently and required excision of whole gland along with tumour. PA of minor salivary glands are comparatively rare and required wide excision. Surgical treatment of salivary gland tumour is not without complications and the most common complication is facial nerve paresis.

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Increasing Incidence of Dealing Paraphenylene Diamine (Kala Pathar) Poisoning at Tertiary Care Hospital of Nawabshah

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ABSTRACT : OBJECTIVE: The aim of our study is to see the incidence and outcome of Paraphenylene Diamine (PPD) Kala Pathar poisoning in our Hospital. **STUDY DESIGN:** Prospective observational. **SUBJECTS AND METHODS :** Subjects with PPD poisoning admitted in Surgical ICU of Peoples University of Medical Health Sciences (PUMHS) Hospital Nawabshah, between 2014 to 2015 were included in our study. The presentation and outcomes of the patients, after management of PPD poisoning was recorded on approved performa. **RESULTS:** 50 cases of PPD poisoning were encountered during the period of one year from 2014 to 2015 at PUMHS Hospital Nawabshah. Out of 50 subjects included 45 (90%) were females and 5 (10%) were males. After examination and complete management of patients, it was found that out of 50 patients 25 (50%) patients cured and 25 (50%) patients died during the management. Tracheostomy was done in 30 patients to relieve the respiratory obstruction. **CONCLUSION :** Poisoning due to PPD was associated with high mortality. Therefore, early management is lifesaving. There is no specific antidote for PPD. Asphyxia is the major early challenge, which require tracheostomy and ventilatory support.

Key Words : Paraphenylene diamine (PPD) poisoning, Kala pathar (black stone), Tracheostomy, Suicide.

INTRODUCTION : Chemically, Kala Pathar is a derivative of Paraphenylene Diamine. It is a brown or black colored solid substance, easily soluble in hydrogen peroxide and not in water^{1,2}. PPD poisoning is amongst one of the emerging causes of poisoning in Asian countries^{2,3}. It is easily available in market at a low cost. Kala Pather (PPD) is crushed and mixed with henna to increase the intensity and fastness of color of henna^{3,4}. It is also used in hair dye for the same purpose since more than a century^{5,6}. PPD compound is highly toxic when taken orally. Death occurs within 24 hours of ingestion due to multiple organ dysfunction. It causes allergy and renal tubular toxicity leading to angioneurotic edema and rhabdomyolysis⁷. First PPD poisoning was reported in 1924 in a hair salon owner^{5,6}. Common presenting features are edema of face, neck, tongue, larynx, sinus bradycardia, sinus tachycardia and acute renal failure⁸.

SUBJECTS AND METHODS: The study was conducted at department of ENT, Head and Neck Surgery of PUMHS Hospital, Nawabshah, Sindh, Pakistan between 2014-2015. Consecutive cases of PPD (kala pathar) poisoning encountered in emergency of PUMHS hospital and admitted in SICU for management were included after taking informed consent from the attendants of patients. Cases where consent could not be taken and SICU admissions other than PPD poisoning were excluded. Personal data with history and reason

of PPD poisoning, finding of clinical examination and the finding of laboratory and radiological investigations were recorded on purpose made IRB approved performa. The patients diagnosed as PPD poisoning and were admitted in SICU were attended by senior consultant on call for the assessment of airway and for making the decision of intubation/tracheostomy.

The data was entered and analyzed using SPSS program version 16 (SPSS Inc. Chicago, IL, USA). P-value of 0.05 was taken as a standard reference.

RESULTS: Total of 50 cases of Paraphenylene Diamine (PPD) poisoning were included during the period of one year from 2014 to 2015. Out of 50 patients, 45 were females and only 5 patients were males (Fig-1)

Age range was from 15 to 50 years. Majority of the patients presented with cervico-facial edema, dysphagia, sore mouth and throat. Dark colored urine, rhabdomyolysis, acute renal failure and hemodynamic shock were also presented as depicted in Table-1

Tracheostomy was performed in 30 (60%) patients by senior consultants to secure the airway as a part of management. Out of 30 tracheostomized patients, 25 (83.33%) patients survived and 5 (17.7%) died (Fig-2)

DISCUSSION: Paraphenylene diamine (Kala Pather) is one of the common constituent of hair dye formulations. It is a coal-tar derivative. Kala Pathar is emerging as a new trend in suicidal

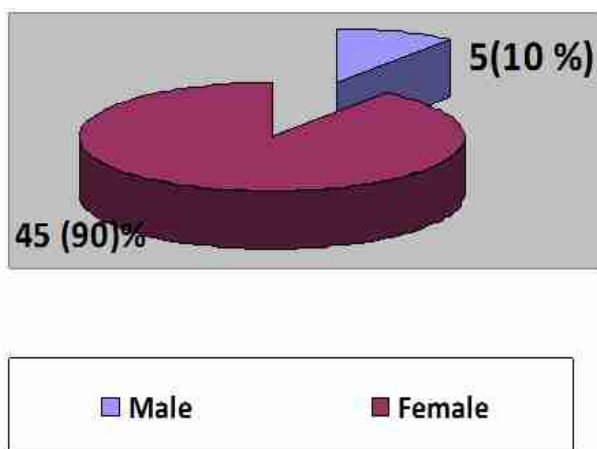


Figure 1 : Gender distribution.

S. No.	Clinical Feature	Patients
1.	Cervico facial Edema	50 (100%)
2.	Dysphagia	50 (100%)
3.	Difficulty in opening of mouth	50 (100%)
4.	Dark Urine	25 (80%)
5.	Rhabdomyolysis	15 (30%)
6.	Acute Renal failure	09 (18%)
7.	Hemodynamic Shock	09 (10%)

Table 1 : Clinical features of Kala Pathar Poisoning.

poisoning due to easy availability, low cost and salty taste rather than bitter^{9,10}. The symptoms are dose related and patients with ingestion of larger amount of PPD have higher morbidity and mortality. Onset of symptoms after ingestion of dye is about 4 to 6 hours¹¹. PPD Poisoning can lead to many symptoms, like angioneurotic edema, sore mouth and throat, acute respiratory failure, rhabdomyolysis, myocarditis, arrhythmias, renal tubular, necrosis, intravascular hemolysis and hypotensive shock¹². Cervico-facial edema was the first symptom to develop. Respiratory failure is the main threat to life. Endo-tracheal intubation, tracheostomy and assisted ventilation are crucial and life saving measures¹³. There is no specific antidote available for this poisoning. PPD is frequently used in Henna and hair dye. Contact allergy to this compound is well recognized problem¹⁴. A study from India showed that increase need of ventilatory support, duration of hospital stay and mortality was dependent on the dose taken by the patients¹⁵. In this study, we could not measure and record the actual amount consumed by the patients due to lack of resources and illiteracy amongst the patient's families presented with the suicidal attempts. It is assumed that patient who could not survive had taken large doses of the poison¹⁶. In a study from morocco during 1996 to 2007 found that, 14.7% patients died due to PPD poisoning out of 102 cases¹⁷. In a seven years retrospective study it was found that the mortality rate was 16% in total¹⁸. Early diagnosis of PPD poisoning and prompt decision for

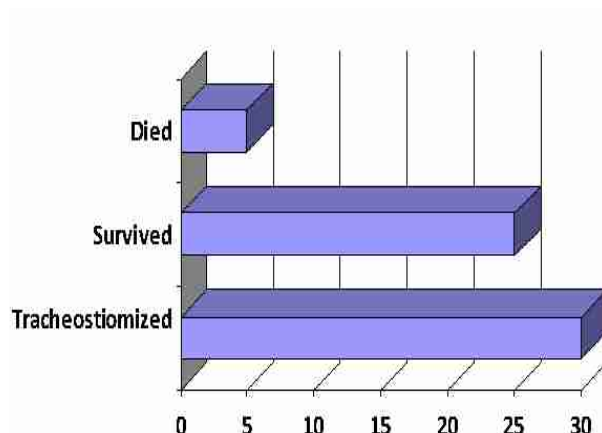


Figure 2 : Survivals In Tracheostomized Cases.

endotracheal intubation or tracheostomy to maintain and support airway is essential in terms of patients survival. Medical treatment with steroid, anti-inflammatory and antihistamine should be given early on presentation¹⁸. Alarming increased cases of kala pathar poisoning are reported in our society. It is increasingly utilized for suicidal attempts due to its unrestricted free availability, low cost and salty taste rather than bitter. Human consumption is highly toxic and there is no specific antidote available. Therefore early management is life saving. Asphyxia is the major early presentation. Airway should be closely monitored and maintain with timely endotracheal intubation or tracheostomy¹⁹. Most of the reports about PPD poisoning have been reported in Africa and Asia, and its importance need to be highlighted further in view of use of Henna in our society²⁰. **CONCLUSION:** There is alarmingly increased cases of Kala pathar poisoning. It is increasingly utilized for suicidal attempts as it is freely available, having low cost and by virtue of its salty taste rather than bitter. Human consumption is highly toxic with high mortality rates. Therefore, early management is lifesaving. There is no specific antidote. Asphyxia is the major early challenge, which required tracheostomy and ventilatory support.

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Pattern of Presentation of Epistaxis in Quetta Region. Is it Related to Meteorological Factors?

Shoaib Ahmed, Naeem Riaz Bhalli, Kamran Ashfaq

ABSTRACT : OBJECTIVE: The study is aimed at investigating the effects of meteorological factors namely temperature, humidity and wind speed on the incidence of epistaxis in Quetta. **STUDY DESIGN:** A Prospective Cross sectional study. **PLACE AND DURATION OF STUDY:** ENT Department Combined Military Hospital, Quetta with a dependent population in a radius of about 100 km. The study was carried out from Aug 2013 to July 2014. **PATIENTS AND METHODS:** A total of 347 consecutive patients presenting in emergency of ENT department for complaints of epistaxis between Aug 2013 to July 2014 were included in the study. All patients were evaluated with regards to the duration, frequency, site, severity, laterality and need for admission with regards to epistaxis

RESULTS: The study comprises of 302 patients, since 45 patients were excluded from the study while the data of the rest of the patients is presented. Mean age of study group was 20.89 years of which 80.8% of the patients were male. Maximum incidence of epistaxis was in summer months but the percentage of patients requiring admission for epistaxis was highest in the autumn and spring. Using Pearson correlation coefficient no significant relationship was found between temp. and humidity with the incidence of epistaxis. **CONCLUSION:** Contrary to the popular held view, meteorological factors are not associated with a higher incidence of frequency and severity of epistaxis.

Key Words : Epistaxis, meteorological factors, season, incidence.

INTRODUCTION : Epistaxis is defined as the bleeding from nose. It is one of the most common presenting emergencies in ENT department¹. There are various classifications for epistaxis. It is classified as primary if no cause is found and secondary if there is a definite cause. It is also classified according to the site of epistaxis as anterior or posterior depending upon its location in relation to piriform aperture. Another mode of classification is depending upon local or systemic causes. A proper diagnosis is usually achieved after a thorough history, physical examination and laboratory assessment^{1,2}. There are a multitude of reasons for epistaxis. Idiopathic cause is also an important factor of epistaxis seasonal variation albeit changes in temperature and humidity have also been postulated to cause an increase in incidence of epistaxis³. However the exact relationship between the climatic changes and the frequency of epistaxis remains a matter of debate. Most of the studies suggest an inverse relationship between temperature and frequency of epistaxis i.e. cold and dry seasons increase the frequency of presentation of epistaxis^{4,5,6}. Still others suggest no correlation between the two. However the studies done on this topic in our country are still few. To our knowledge this is the first prospective study done with the aim of studying the effect of change in temperature and humidity on the incidence of epistaxis in a provincial capital of our country.

PATIENTS AND METHODS : This was a prospective cross sectional study carried out at departments of ENT, CMH Quetta and Bolan Medical Complex from August 2013-July 2014. Non probability consecutive sampling technique was used. 347 consecutive patients presenting in emergency of ENT departments for complaints of epistaxis were assessed for site, severity, duration and frequency of epistaxis as well as need for admission. A detailed record was kept of the daily minimum and maximum temperature as well as daily humidity and wind speed. Ethical committee's approval was sought before initiating the study. Patients with recent history of URTI, severe DNS, nasal trauma, allergic rhinitis, nasal polyps, chronic granulomatous diseases, nasal tumors, bleeding or hematological disorders, pregnancy and history of anticoagulant or aspirin use were excluded from the study.

CMH Quetta is a tertiary care referral centre located in the provincial capital of Baluchistan and serves the population of Quetta city. Meteorological record was obtained from the Pakistan meteorological observatory located in Quetta Air Port. Seasons were classified as follows: Summer (May-August), Autumn (Sept-Oct), Winter (Nov-Feb) and Spring (March-April). Data was analyzed using SPSS version 16. All inferential tests were two tailed and $p=0.05$ was set as the threshold of statistical significance. Bi-Variate Correlation analysis was done to test

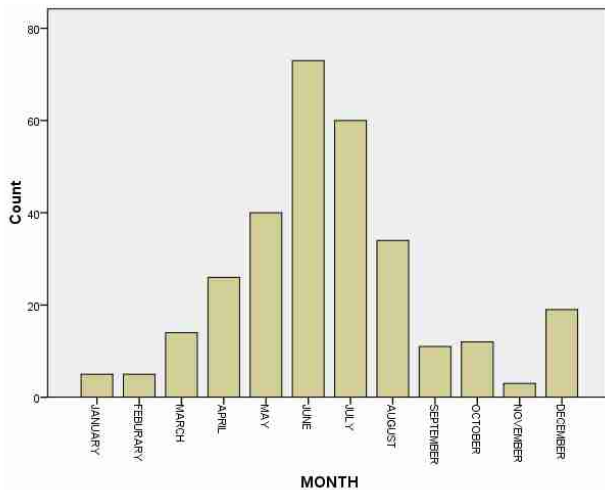


Figure 1 : Gender distribution.

for significance between groups. A prior decision was made to consider correlation coefficient r , between -0.4 and 0.4 inclusive Weak Correlation, between 0.4-0.7 as Moderate Correlation and >0.7 or <-0.7 as Strong Correlation.

RESULTS : Out of a total of 347 patients included in our study 45 were excluded as they didn't fulfill the inclusion criteria. The data of 302 patients has been presented. In our study the average age of presentation was 20.89 ± 14.23 years and includes 244 (80.8%) males and 58 (19.2%) females. The greatest incidence of epistaxis was in the summer season with an overall 68.5% cases presenting in the summer months. Similarly the maximum number of admissions to hospital for complaints of epistaxis was also in the months of summer. In addition humidity ranges of 10-20% had the greatest frequency of epistaxis. Conversely a high temperature range of above 20 degrees had the maximum incidence of admission. However no significant correlation was found between the duration, frequency, laterality, site, severity of epistaxis and hospital admission due to epistaxis with daily temperature, daily humidity or even average wind speed. The r value in each case was 0.16, .033, -.077, .089, .037 and .017 with relation to average daily temperature respectively. While for range of daily humidity the r value was .044, .064, .035, -.066, -.058, .033 respectively. (Table 1). Similarly there was a stronger yet insignificant correlation between incidence of cases and daily temperature range as well as between incidence of cases and daily range of humidity. The r values were 0.04 and 0.14 respectively. A significant positive correlation was found between the duration and frequency of epistaxis as well as severity and admission to hospital.

DISCUSSION : Epistaxis is one of the most commonly presenting complaints in an ENT emergency. It forms one of the most common

causes of emergency admissions; as such knowledge of factors influencing presentation patterns in an emergency helps in elective health care provision and pre-emptively manages bed occupancy in ward^{7,8,9}. Although much work has been done to study the patient demographics and associated medical health issues and their correlation with patterns of epistaxis presentation however few papers have prospectively studied the influence of environmental factors on presentation of epistaxis.

This was a prospective study done with the sole purpose to study the effect of seasonal influences on the presentation pattern of epistaxis in out patients department and to determine whether any correlation existed between the two. It was done in Quetta region of Pakistan where there is lowest humidity with great variation in temperature throughout the year which helps to truly study the role of seasonal variation on the presentation of epistaxis. Since this was a prospective study so the record keeping and follow-up of the patient was maintained to the very best and any discrepancies were adequately accounted for.

The results of our study showed that there was no significant correlation between the duration, laterality, site, severity and frequency of epistaxis. Similarly frequency of admission due to epistaxis was not correlated with humidity, temperature or wind speed. However the incidence of epistaxis was increased during the summer months when average daily temperature was high and during the months of low humidity. Our findings are similar to the findings of Rezende GL, Granjeiro RC which observed no significant correlation between humidity, temperature and the admission rate due to severity of epistaxis. Similarly dry climate was not correlated with increased severity of epistaxis¹⁰. Another study by Bray D, Giddings CE did not find any correlation between ambient temperature and presentation rate of epistaxis. Similarly no seasonal preponderance was noted¹¹. Our results are contradictory to the findings of study by Rijal AS, Mahrajan S and Muhammad R and Khan F who noted an increased frequency in epistaxis during the cold periods and a negative correlation with relative humidity. While we observed a significantly increased incidence of epistaxis during summer and a negative correlation with humidity^{12,13}. Another study by Sowerby LJ, and Deserres JJ noted a negative correlation between daily temperature and epistaxis but no correlation with humidity and no significant seasonal variation¹⁴. We have comprehensively studied all environmental factors which can be expected to play a role in epistaxis namely temperature, humidity and wind speed. In addition admission patterns have also been studied. In our study no significant correlation was found between

hospital admission rates for epistaxis in winter months. There was no significant correlation between incidence of epistaxis and range of humidity and temperature as well. There was no significant correlation between wind speed and frequency of epistaxis once humidity and temperature was accounted for. This finding in our study is significant due to the fact that most prior studies noted a positive correlation with increased frequency of epistaxis during the winter months while we observed no such change.

The future directions of our study can be to perform the study for a longer period involving several centres within the same geographical area and greater number of patients. Another approach can be to record indoor temperatures and humidity at homes in the region and compare these values to presentation rates as mostly people stay indoors in extreme weather. Effectiveness of artificial humidifiers and the role of education and awareness about the problem can also be studied.

CONCLUSION : There is no significant correlation between the site, severity, laterality and frequency of epistaxis with the number of meteorological factors studied. Larger multicentric studies are recommended to further clarify any such association.

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Bilobed Flaps; A Versatile Reconstructive Technique in Facial Defects; an Experience in Fifty Cases

Habibullah Khajjak, Sher Zaman, Munir Ahmed Baloch, Shabbir Ahmed Lehri

ABSTRACT : OBJECTIVES : To evaluate the results of bilobed flaps in reconstruction of facial defects. **STUDY DESIGN:** Prospective, case series. **DURATION:** January 2013 to December 2015. **PATIENTS AND METHODS:** This study was carried out at department of plastic surgery of Bolan Medical College, Quetta. Total 50 patients were enrolled after informed consent referred from ENT and other department or visiting outpatient clinic of plastic surgery having facial defects. Patients who gave consent to be included were enrolled. Patients with multiple scars of previous surgery and who didn't gave consent were excluded. **RESULTS:** Out of total 50 patients included, 28 (56%) were females and 22 (44%) were males. The females to male ratio was 1.27:1. Maximum patients were in the age range of 51-60 years (30%). Excellent results in terms of patient's satisfaction were found in 56% of cases postoperatively. **CONCLUSION:** Reconstruction of facial defects with bilobed flaps has excellent results in experienced hands.

Key Words : Cosmetic disfigurement, Bilobed Flaps, Facial defects, Plastic reconstruction.

INTRODUCTION : Facial defects due to any cause can lead to significant cosmetic disfigurement and pose great concern for patients as well as clinicians. Skin flaps have been used, for repair of facial defects since 6th century BC. But more generalized application has been in use since the beginning of century. The earliest description of bilobed flap is believed to be of Esser in 1918, as a double transposition flap, in the reconstruction of nasal tip defects^{1,2}. As a re-constructive surgeon we came across cutaneous lesions on the nose, cheeks, and adjoining areas, which pose a serious disfigurement to the patient. Added surgical excision of the defect, specially over nose and adjoining cheeks creates a defect, posing strong challenges to reconstructive surgeon.

PATIENTS AND METHODS : This prospective case series was conducted at Bolan Medical Complex Hospital, Quetta. In plastic surgery department and ENT head and neck surgery department during the three years period from January 2013 to December 2015. Patients were enrolled from outpatient department and indoor patients of the respective departments. The sample size was 50 patients (n=50). The sampling technique was convenient sampling. The inclusion criteria was the patient who gave consent to be included in this study. Patient who have facial lesion and needs cosmetic surgery decided by the consultant surgeon were included. The exclusion criteria was patients who were previously operated with multiple scars marks. The selected patients were inquired about other diseases and their complete examination was performed. The selected patients

were undergone surgeries and the lesions resected and bilobed flap reconstructive was performed. The patient were evaluated for the result of the flap. The study variables were the age, gender and primary diagnosis of the disease, site of the lesion, size of the lesion, post-operative complications and results of the flap (excellent, very good, good and satisfactory). The results were analyzed statistically using SPSS version 20 and compared with local and international studies. The opinion of the patients was collected post operatively using the following options: Excellent: No dog ear, No keloid and No scar. Very Good: Mild scar visible.

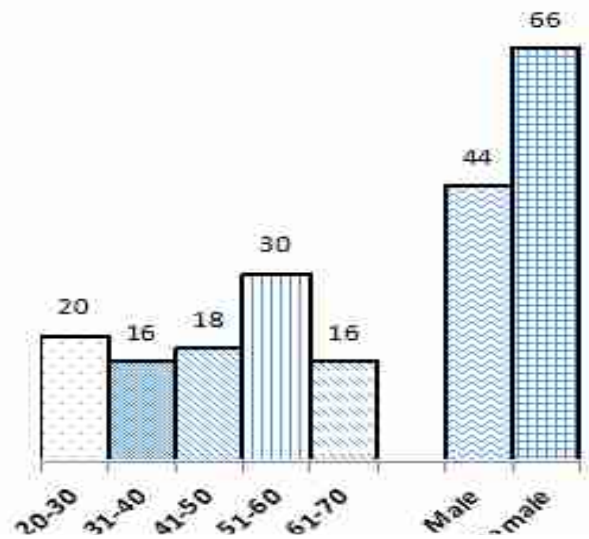


Figure 1 : Age and gender distributions of patients in percentage.

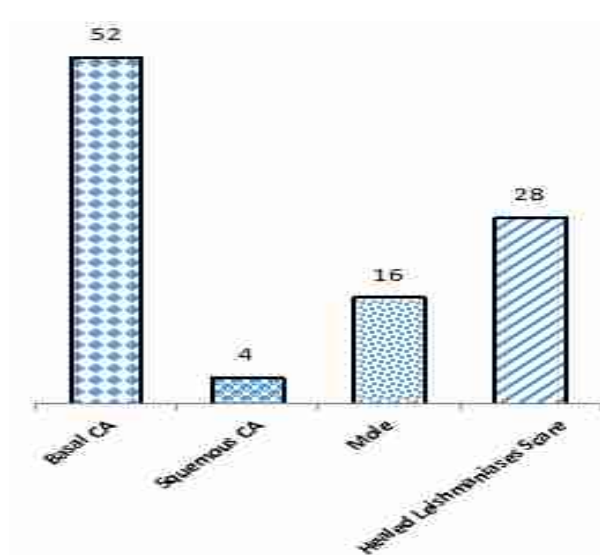


Figure 2 : Causes for bilobed flap reconstruction in percentage.

Good: Infection of the flap. Satisfactory: Initial infection and necrosis, bleeding by the secondary infection.

RESULTS: Out of total 50 patients included in the study 28(56%) were females and 22(44%) were males with female to male ratio of 1.27:1. The age ranges from 20 to 70 years with maximum number of patient were in the age range of 51-60 years(30%) as depicted in Fig-1. Maximum number of defects (N-26(52%)) for which bilobed reconstruction was done were due to basal cell carcinomal followed by defects due to scars of healed leishmaniasis (n-14(28%))(Fig-2). Postopertaively the included patients were evaluated in terms of cosmetic satisfaction. Out of total 50 cases, 28(56%) were extremely satisfied with the results and rated excellent out come while only 04(8%) cases were merely satisfied with result Fig-3)

DISCUSSION : Use of bilobed flap in facuak defect allows transfer of skin and soft tissues in an area where skin transfer is difficult either due to limited mobility and laxity or deficient local skin. This technique has been used commonly in reconstruction following resection of malignant disease and defects created after resection of other benign conditions with aesthetic and cosmetic issues. Having advantage over other surgical options such as full thickness skin grafts and single lobed flaps which are either lacking the natural bulk or can not stand the tension placed on the flap and in conditions where radiotherapy has to be initiated early²⁻³. Esser described the flap initially consisting of two tongues of a flap, primary lobe and a secondary flap having a common base rotated one behind the other along the long axis of the

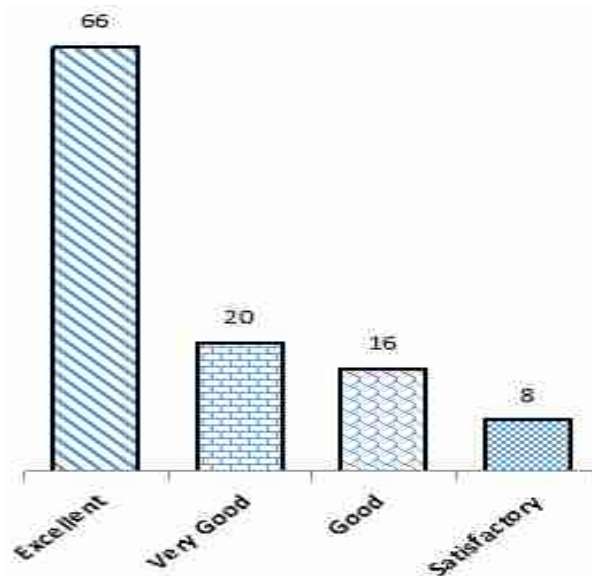


Figure 3 : Post-operative results in percentage.

defect. He emphasized that the primary and the secondary flap should be of the same size and form^{1,2}. In 1952, Zimney added his experience and described and refinement in the technique. He described the flap consisting of two or more flaps or lobes separated around 90 degrees or less based on a common arterial supply and with such dimentions that tension is evenly distributed on all sides. He also added that the angle between the primary and secondary flap may vary between 45- 180 degrees. Greater the angle between the primary and secondary flap greater will be the chances of the dog ear at the point of rotation. He also felt that the secondary flap should be smaller than the primary flap^{3,7}. McGregor and Soutar also analyzed the design and which resulted in less rotational deformity⁸. The added work by Zetelli suggested an arc of rotation between 90-110 degrees with more or less 45 degrees rotational arc between flaps⁹⁻¹¹. The skin laxity in the area from which flap is to be mobalized can be ascertained by pinching the skin between thumb and index finger held 1-2 cm apart, this manevre will help determine loose and transferable skin^{6,7}. This study comprises of application of technique in management of defects. Majority of them being malignant ulcers on nose, lower eye lids, cheeks and lips. Size of the defect varied from 1.5 cm to large surface area defects on the nose, cheek and lips. This flap is mostly used when a defect cannot be closed primarily or adjacent tissues cannot be mobilized or when mobilization of tissues results in gross distortion of regional anatomy Bilobed flap does not possess a definitive vascular pedicle. In most of the cases it receives its



A lady with a Basal cell leision on nose pre, post and follow up photos. Slight post operative dehiscence following infection is noted.
 B Basal cell leision on the lower Eye lid. Excision, and a Bilobed flap reconstruction.
 C Basal cell leision on the Zygoma Excision bilobed flap recnstruction.

naorishment through the musculocutaneous and fasciocutaneous network. Use of this flap provides homogenous skin with adequate soft tissue bulk thus providing good camouflage with acceptable cosmetic outcome. Moderate to large sized defects are also reconstructed using Bilobed flap technique with good functional and cosmetic outcome¹². We have presented a broad application of this technique and its utility. Other than face areas this procedure is applicable on other parts of body, with following the general guide lines.

CONCLUSION : Bilobed flaps are versatile and rhobust flap. In experience hand, this flap technique has excellent results in reconstruction of facial defects.

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Ameloblastoma of Ramus of Mandible Amalgamating as Parotid Tumor.

Iqbal A.Muhammad Khyani, Nida Khan, Rajesh Kumar

ABSTRACT : Ameloblastoma is a benign locally invasive epithelial odontogenic tumour comprising 1% of all tumors and cysts arising in the jaws. It is commonly found in the third and fourth decade in the ramus of the mandible. In this report we present a 50 years old female with a large ameloblastoma in the region of right mandibular ramus along with cortical disruption. This lesion was diagnosed with the help of C.T scan and the patient was successfully managed by wide local excision with hemimandibulectomy. Literature is reviewed.

KEYWORDS: Ameloblastoma, Odontogenic tumor, Hemimandibulectomy.

INTRODUCTION : Ameloblastoma is the most common benign odontogenic tumor that constitutes about 1% of all cysts and tumors of the jaws. It is generally a painless, slow growing, locally aggressive tumor causing expansion of the cortical bone, and infiltration of the soft tissues. It has peak incidence in third and fourth decade of life but can be found in any age group with equal gender predilection (1:1). The relative frequency of mandible to maxilla is reported to be varying from 80-20% to 99-1%. In the mandible majority of ameloblastomas are found in the molar ramus region^{1,2}. Conventional radiograph is sufficient for small mandibular lesions but maxillary lesions and extensive lesions require CT and MRI to establish the extent of the lesion. We present a 50 years old female with a large ameloblastoma in the region of right mandibular ramus along with cortical disruption. This lesion was diagnosed with the help of C.T scan and the patient was successfully managed by wide local excision with hemimandibulectomy.

CASE SUMMARY: A 50 years old female patient presented with right cheek mass of 5 years duration. It was a slow growing painless mass which was not associated with any overlying skin changes. It did not increase in size with mastication and was associated with facial asymmetry. On physical examination it was found to be about 8x6 cm, irregular in shape with well circumscribed margins, firm to hard, non-compressible, non-reducible, non-tender, non-translucent mass over the right parotid area, extending from the zygomatic arch to the lower border of the mandible and extending 3cm lateral to the angle of mouth up to the post auricular area horizontally. The mass was fixed to mandible. Facial nerve function was intact with no facial muscle weakness observed Fig-1. The patient was otherwise healthy and was not taking any medications.

The patient was subjected to radiographic and routine hematological examination. The hematological findings were unremarkable. OPG



Figure 1 : Clinical appearance of the lesion.



Figure 2 : OPG Findings.



Figure 3 : C.T Scan Findings.

showed large expansible lytic lesion with thin septation seen involving ramus, angle and part of right hemimandible with extension up to coronoid and condyloid process on the right associated with soft tissue swelling on the right side lateral wall of maxillary sinus was also appeared to be eroded and the zygomatic arch was not defined (Fig-2). C.T scan showed a large expansible destructive lesion appreciated in right mandibular ramus with cortical disruption. It was associated with a large soft tissue component involving the right parotid gland and extending into the infratemporal fossa proximally. It was involving the right masseter and right temporalis. The mass was showing multiple areas of necrosis and specks of air communicating with right second molar teeth. This mass was measuring 8.2x6.0x7.3 cm in APxTSxCC dimensions. Imaging appearances are suggestive of malignant neoplastic lesion (Fig-3).

The differential diagnosis includes odontogenic keratocyst, odontogenic myxoma, central giant cell granuloma and Brown's tumor of hyperparathyroidism. FNAC showed neoplastic lesion of low malignancy, probably of salivary gland origin. Differential diagnosis includes; polymorphous low grade adenocarcinoma, papillary adenocarcinoma (low grade), epithelial or myoepithelial carcinoma.

Considering the merit of the situation, modified Blair's incision was given, Branches of facial nerve were exposed due to stretching effect of the growth. Right ramus of mandible with part of the body, condylar and coronoid processes were involved by the tumor. Whole mandible ramus removed together with body and the whole specimen with growth was delivered between the retracted branches of Facial nerve. The specimen was sent for histopathology (Fig-4). Histopathology sections examined revealed a neoplastic lesion comprising of islands of columnar cells showing peripheral palisading



Figure 4 : Specimen showing growth along with hemimandible.

and a reverse polarization. Centre of epithelial island show loose stellate reticulum like cells. Intervening stroma is compact and fibrous. Tumor islands are invade into surrounding soft tissue. Lesion is reaching up to superior, right soft tissue and left soft tissue margin of excision. No evidence of lymphovascular invasion or evidence of polymorphous low grade adenocarcinoma were observed. Final diagnosis of Ameloblastoma, follicular variant was made. Post operatively patient had slight neuropraxia of right marginal mandibular nerve. The patient was discharged on 5th post. operative day (Fig-5).

DISCUSSION: Ameloblastoma is a benign epithelial odontogenic tumour often aggressive and destructive with the capacity to erode bone and invade adjacent structures. Ameloblastoma of the lower jaw can progress to variable sizes



Figure 5 : Post operative appearance of the patient.

(1-16 cm) and cause facial asymmetry, displacement of teeth, malocclusion and pathological fractures¹. In the present case also the patient's clinical examination revealed a large hard swelling in the ascending ramus of the mandible which had caused the facial asymmetry. Ameloblastoma arises from epithelial cellular elements and dental tissues in their various phases of development^{1,2}. Ameloblastomas occur with almost equal frequency in both genders slightly higher in women than men. The majority (70%) are located in the molar ramus region and 10-15% are found in association with an unerupted tooth³. In the present case also ameloblastoma was found in the molar ramus region and was not associated with any unerupted tooth. Ameloblastoma are classified as either extraosseous (peripheral) or intraosseous. Peripheral one presents as either sessile or pedunculated, slow growing mass that is confined to the gingiva or alveolar mucosa, without involving the underlying bone. Intraosseous ameloblastomas of the jaws are further classified as unicystic, desmoplastic, mixed cystic and solid types⁴. The mixed cystic and solid forms demonstrate more aggressive behaviour and are known for recurrence⁴. The histopathological variants are the follicular and plexiform types, followed by the acanthomatous and granular cell types⁵. Uncommon variants are desmoplastic, basal cell, clear cell ameloblastoma, keratoameloblastoma and papiliferous ameloblastoma⁷. Among all these variants, plexiform pattern is less aggressive with low recurrence⁶.

Ameloblastoma usually presents as a painless, slow growing hard mass¹. In our case, it was painless and hard swelling which took about 5 years to attain the presented size and there was no other clinical feature. In mandibular ameloblastoma half of the patients presented with swelling of the affected region (38.3%), paraesthesia of the innervated region of the mandibular nerve (13.3%) and altered occlusion of teeth in 10% of cases⁷. In a conventional radiograph, ameloblastoma can present as either unilocular or multilocular; the bony septae results in a honey comb or soap bubble appearance, or tennis racket pattern. In some places, cortical plates are spared and expanded where as in other region they are destroyed. Root resorption is a common finding with buccal and lingual cortical plate expansion is common in ameloblastoma than in other tumors⁴. The challenge in managing ameloblastoma is in achieving complete excision and reconstruction of the defect when the tumor is large⁴. Ameloblastoma is treated by enucleation, curettage or surgical excision depending on size and type of the lesion. The rate of recurrence ranges from 17.7% for en bloc resection to 34.7% for conservative therapy. Wide resections with a safety margin of healthy bone to prevent local recurrence were preferred. It seems acceptable

to group the treatment regimens into three modalities being conservative that includes enucleation and curettage, marsupialisation and radical surgery which includes resection with or without continuity defect⁸. For solid-multicystic ameloblastoma of the mandible, a resection of the jaw should be approximately 1.5-2 cm beyond the radiological limit, in order to ensure that all the microcysts and daughter cysts are removed². In our case also marginal clearance of 2cm was achieved and histopathology of specimen revealed it to be follicular variety. There are different methods of mandibular reconstruction of large defect with microvascular surgery using donor site from fibula, iliac crest, scapula and radial forearm. In our case although tumor was treated with hemimandibulectomy as it was quite an extensive lesion involving body as well as the ramus of the mandible but the reconstruction of the mandible was not attempted as yet due to patient disagreement to undergo second stage surgery. The chance of recurrence seems to be more dependent on the method of surgical treatment. In general, annual follow-up for at least 10 years is recommended. Few authors have recommended annual follow-up for 5 years and thereafter once in every 2 years till 25 years. Our patient is also under follow-up with no evidence of recurrence.

CONCLUSION: Ameloblastoma is the most commonly occurring odontogenic tumor in the mandibular body and ramus region in the middle age group, yet other differential diagnosis such as odontogenic keratocyst, odontogenic myxoma, central giant cell granuloma has to be ruled out with the help of advanced radiodiagnostic tools. The best treatment of Ameloblastoma is aggressive en bloc resection with simultaneous reconstruction.

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Migrating Extraluminal Foreign Body in the Thyroid Gland, an Unusual Case

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ABSTRACT : It is very common for foreign bodies to be found in upper aerodigestive tract. In very rare cases they migrate from esophagus. We report a case of 23-year-old girl who presented in our department with complain of foreign body sensation in throat since 1.5 months. She has a history of ingesting some sharp metallic object along with meal. IDL and endoscopic examination of the esophagus were unremarkable. X-ray neck lateral view showed an oblique opacity C5-C6 level. CT scan was advised which showed a linear foreign body in neck. Exploration of neck under GA was carried out during which a pin was found in left lobe of thyroid gland.

KEYWORDS: Foreign body, Ingestion, Migrating, Extraluminal, Thyroid gland.

INTRODUCTION : Foreign bodies in the upper aerodigestive tract are very common. They mostly gets impacted in the tonsil, base of the tongue, velliculae, pyriform fossa or the cricopharynx of the esophagus¹. Very rarely sharp foreign bodies penetrate esophagus and migrate extraluminally. The treatment of such cases are very important because if left untreated they can lead to several morbidities. Diagnosis of extraluminal foreign body is challenging. Endoscopy and X-rays fails to tell the exact location of foreign body. CT scan is the best modality for confirmation and location of exact site, if the neck exploration is required for removal of foreign body². We report an unusual case where an ingested foreign body was migrated and found in the left lobe of thyroid gland.

CASE SUMMARY : A 23 years old young female presented in ENT department with complains of

foreign body sensation in her throat since 1.5 months. She had a history of ingestion of something sharp with meal, since then the pain has started. It was initially central, later radiated towards the left side. Pain was severe, pricking in nature and aggravated on swallowing and movement of the neck. She doesnot have difficulty breathing or change of voice. Her past medical and surgical history was also unremarkable.

On examination patient was conscious and well oriented. Her vitals and subvitals were also normal. Overlying skin was normal and no mass palpable. There was marked tenderness present over the left side of the neck. Indirect laryngoscopy revealed normal mucosa and no foreign body. Endoscopic evaluation of esophagus and fiberoptic laryngoscopy done but no foreign body seen. X-ray neck lateral view was then ordered which showed an oblique opacity in the neck at the level

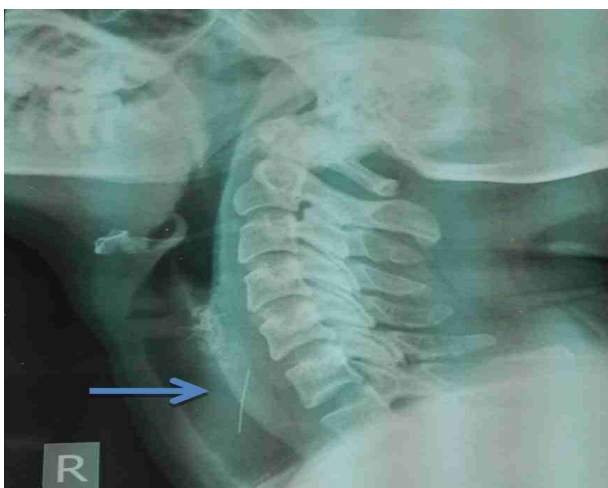


Figure 1 : Plain X-Ray neck lateral view showing foreign body.

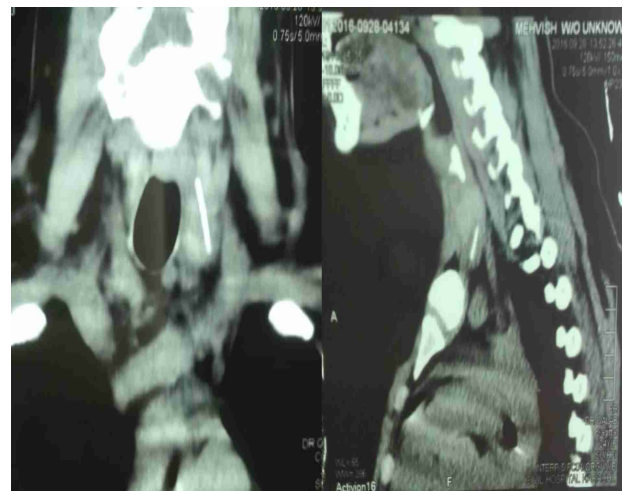


Figure 2 : C.T scan films showing location of radiopaque foreign body.



Figure 3 : Metallic foreign body (pin) removed.

of C5-C6 vertebrae (Fig-1). To know the exact location of foreign body CT scan neck was advised which showed a linear foreign body resembling pin on the left side of the neck. It was oriented obliquely extending from anterior wall of cervical esophagus in to left lobe of thyroid gland (Fig-2). Neck exploration with an external incision was planned and thyroid was explored under general anesthesia. When left lobe of thyroid gland was pressed, pin popped out and removed (Fig-3). There was slight inflammation around the gland where the pin was present but no signs of abscess seen. Thyroid gland thus preserved and hemostasis secured. Intravenous broad spectrum antibiotic was given and patient was discharged after two days of observation.

DISCUSSION : Foreign bodies in the esophagus are very common in otorhinolaryngology clinics. Very few cases have been reported in the past where these foreign bodies gets impacted in the esophagus and even more rarely these foreign bodies migrate extraluminally and enters into the soft tissue or viscera of the neck. In 1983 Remsen, et al reviewed 321 cases of penetrating ingested foreign bodies out of which 252 remained intraluminal while 43 were found extraluminal³. Almost all the time, these foreign bodies were sharp or horizontally oriented into the esophagus. Hohman, et al reviewed 15 cases from past, where 10 foreign bodies were fish bones² were chicken bones and 3 were wire bristles². These sharp foreign bodies when penetrate esophagus they migrate into the soft tissues of neck by the contractions of hypopharyngeal and cricopharyngeal muscles. It is further facilitated by the movement of the neck. This explains why most of the foreign bodies penetrate esophagus in the cervical region. These foreign bodies can be very dangerous as they can damage major vessels leading to severe blood loss or aorto-esophageal or innominate esophageal fistulae⁴. Bacterial

infection around these foreign bodies can cause abscess formation in the retropharyngeal or parapharyngeal space and sometimes in the thyroid gland as well, adding to the morbidity of the patients⁵. Diagnosis of migrating foreign body is very difficult. History of foreign body ingestion, positive x-ray neck lateral view and negative endoscopy gives clue⁶. CT scan with fine cuts requires almost all the time to know the exact location of foreign body, its relationship to the surrounding structures and the extent of damage it has caused. It facilitates localization of the site targeted for exploration and removal. Enhaio, et al in his case series and literature review mentioned 18 cases of migrating foreign bodies in thyroid gland out of which 13 was found to be embedded in the left lobe of thyroid gland while only 5 in the right lobe of thyroid⁷. One hypothesis is that the cervical esophagus is slightly deviated towards the left side where a small portion of its ventral aspect is not covered by trachea, and is in direct relationship to the dorsal aspect of the left lobe of thyroid gland. In our case the pin was also found in the left lobe of thyroid gland⁷. When CT scan confirms migratory foreign body, neck exploration with external incision is required. This will reduce the chances of life threatening complications. Goh and Tan in 1999 reported 4 cases of foreign body in thyroid gland which were all removed via neck exploration except one which required thyroid lobectomy⁸. In our case the left lobe of thyroid gland was found normal with no frank abscess, so thyroid lobe was spared contrary to the cases found in literature.

CONCLUSION : Extraluminal migration of foreign body should be considered with positive symptomatic history of foreign body ingestion, even if meticulous clinical examination does not reveal obvious foreign body.

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