ORIGINAL ARTICLE

Vocal Cord Polyp – Management And Results

S M Khorshed Alam Mazumder[1], Mustafa Mahfuzul Anower[2], Mohammed Yousuf[3], Salahuddin Sayed[4], Ashfaquazaman Sikder[5], M.N Amin[6], M A Majed[7], M A Manna[8], Anwarul Azim[9]

Abstract

Hoarseness of voice is the commonest presenting symptom of vocal cord polyp. 320 patients of vocal cord polyp were treated in the ENT departments of IPGMR Dhaka, Dhaka Medical College, Dhaka, Women Medical College Hospital ,Uttara, Dhaka, Dhaka National Medical College Hospital, Dhaka. & Holy Family Red Crescent Medical College Hospital,from January 1989 to December 2002. Male and female ratio is 2:1. It affects its prey mostly the active phase –the 3rd ,4th and 5th decade of life. Chronic overuse and or misuse of voice predisposed by smoking or infection is the possible cause of vocal cord polyp. 70% patients were smokers out of which 40% smokers were smoking for over 20 years taking 10-30 sticks per day without interval. Polyp had affected either of the cords of which 156 patients had right vocal cord polyp and 158 had left vocal cord polyp and only 6 patients had bilateral vocal card polyps. Polyps were removed endoscopically under general anesthesia and send for histopathological examination. Post operatively patients have been advised for two weeks of voice rest and not to overuse voice and to stop smoking. The aim of the study was to find out the etiology of vocal cord polyp and to evaluate the result of treatment given.

Introduction

Polypoid masses arising from vocal cords are not uncommon. Some of which are malignant and some are not. Benign polypoid masses are papilloma, fibroma, neurofibroma leomyoma etc of which papilloma can be single or multiple.other non nepotistic lesions presenting as polypoid masses are vocal cord polyps.
Hoarseness of voice is the commonest presenting feature of any mass affecting the cords. Every individual desires a good quality of voice to be pleasant to hear & loved by every one. Many people live on their voice- teachers, peachers, singers, announcers, and actors. The commonest cause of change of voice is overtaxing and incorrect use of voice.[1]
Accumulation of fluid in Reinkie's space is called vocal cord edema and if the accumulation is contained in one point and balloons out the epithelium in front of it this is known as vocal cord polyp. It is a non-neoplastic lesion.
Their etiology is obscure, although it is believed that increase voice exertion resulting in mechanical trauma is a factor.[2] Most authors believed that heavy smoking and or vocal abuse or misuse are primary causal factors[3,4,5]. Klinsesser has suggested that persistent irritation & mechanical trauma alters the permeability of capillary walls resulting in extravasation of blood and tissue fluid into Reinkie's space. Polyps are consequence of chronic overtaxing of voice and phonating with excessive subglottic air pressure and incompletely closed vocal cords. It can be after effect of chronic laryngitis, particularly when the

1. Associate professor of ENT, Holy Family Red Crescent Medical College Hospital
2. Asst. Prof. of ENT, Chittagong Medical College
3. Asst. Prof. of ENT, Zahurul islam medical college, kishoregonj.
4. Consultant of ENT, National Cancer Institute and Hospital
5. Consultant of ENT, Holy Family Red Crescent Hospital.
6. Director, SAHIC, Mohakhali Dhaka.
7. Sr.Consultant of ENT, Holy Family Red Crescent Hospital
8. Assoc Professor of Anesthesiology, HFRCMCH
9. Assoc Professor of Surgery, HFRCMCH

voice has not been spared during inflammatory phase[1] Polypoid degeneration occurs in both sexes most commonly after middle age[3]. Polypoid degeneration (also called Rienkie's edema & Polypoid corditis) is a disease characterized by chronic edematous lesion extending the full length of one or both membranous folds[3,4]. They are only a few millimeters in diameter and nearly occlude the glottis.[2] They may occur singly or bilaterally in both cords. They usually appear as smooth soft translucent mass with a broad base and thin epithelium.the epithelium is often covered with a thin white keratinised layer[2] The stratified squomous epithelium covering the polyp can very from normal to hypertrophied keratinised[1].

Materials and methods

The study includes 320 patients suffering from vocal cord polyps. Patients were treated in the ENT departments of IPGMR Dhaka, Dhaka Medical College, Dhaka, Women Medical College Hospital ,Uttara, Dhaka, Dhaka National Medical College Hospital, Dhaka. & Holy Family Red Crescent Medical College Hospital,from January 1989 to December 2002. Altogether 320 patients of vocal cord polyps, male and female of ages ranging from 15 –50 years belonging to different socioeconomic conditions and professions were studied.

The diagnosis of polyps were established after consideration of history, examination of the larynx, examination of the neck, general examination, radiological examination, laboratory investigations endoscopic examination and histopathological examination.

A through and careful history was taken from each and every patient to have the maximum information regarding his / her illness. As to the complaints, mode of onset, progress and duration in particular was asked for, each of the complaints, detailed information about the dietary habit, smoking, drinking, and chewing habit were obtained. Every patient were especially inquired in detailed about their profession , their vocabulary habit ,time in hours spent on talking, aspects of job needing their use of voice. In patients where thought to be relevant, asked about mental and psychological problem, tension or anxiety etc. Male patients were asked for the history of exposure and females for such history or disuse in case of their husband. They were asked for previous illness affecting the larynx or other organs of the body. Family history for affection of similar disease to any other member of the family. History of radiation or operation under general anesthesia, especially needing prolonged intubation. Patients were asked for hoarseness, respiratory distress, haemoptysis, dysphagia, throat pain cough & allergy etc. when such symptoms were present the duration was noted

Also inquired about the sudden overuse of voice, any recent attack of cold. Indirect laryngoscopy was done in all patients as routine procedure. The following structures of the larynx were examined and inspected for normality and detection of any lesion – Base of the tongue, Valleculae, epiglottis, aryepiglottic fold, pyriform fossae, false cords, arytenoid region, anterior and posterior commissar, subglottis.

Examination of the neck was done scrupulously for any lymph node involvement or other abnormality. Anterior rhinoscopy, posterior rhinoscopy, otoscopy, through examination of the oral cavity with pharynx done in every case.

A complete general examination was done, cardiovascular and respiratory status and reserve was carefully assessed in every case. X-ray PNS in occipitomental view was done in relevant cases.

Clinical investigations: A full hematological and biochemical profile including screening test for diabetes, tuberculosis,(MT,AFB) syphilis (VDRL,TPHA) was done.

Endoscopy: Every patient was subjected to direct laryngoscopy under general anesthesia. The site of origin, number appearance, consistency, nature in naked eye and mobility of lesion(s) were encountered.

Histopathology: Tissue collected from excised lesion (Fig-1) and after proper preservation with description and labeling sends to histopathologist at the earliest convenient time

for histopathological confirmation of diagnosis (Fig-2).

Results

Age and sex distribution: Out of 320 patients' age varying from 15-50, most of the patients presented between 30-45 years with a male female ratio of 2:1.

Table I- age and sex distribution: n=320

Age	Male	Female
15-20	40	11
21-30	60	45
31-40	68	32
41-50	46	18

320 cases (male 214,female 106) with vocal cord polyps were studied. Average age at presentations for male were 36.5(15-40) and female were 30(15-48) years.

Clinical presentation: Presenting symptoms were hoarseness of voice 100% for average duration of 22 months. Cough 20%, throat pain 9%, headache 6%, were other significant symptom for variable duration Incidence of past history of hoarseness were noted in 156 patients for variable periods.

Occupation and nature of work: Out of 320 patients 217 were voice overusers of which occupationally cultivators 42,housewife 65,student 18,singer 16, teacher 14,salesman 12, motor car helper 13, fisherman 10,muazzem 12,lawyer 13, and other 2. 136 patients agreed on asking that they are suffering from stress, anxiety or tension of some kind, family problem, employment or business.

Effect of smoking: 70% patientient were smoking for variable period of which 40% smokers smoking for more than 20 years taking 10-30 sticks per day.

Findings of direct and indirect laryngoscopy: 314 patients having single unilateral polyp and 6 patients were recorded to have bilateral polyps. All vocal cord polyps were single and unilateral except in 6 patients where bilateral polyps were present. In 156 patients polyps were in right vocal cord and in 158 patient's polyp was in left vocal cord.

Treatment: They required endoscopic removal under general anesthesia by cupped forceps followed by advice for voice rest for two weeks and thereafter-proper use of voice.

Under general anesthesia direct laryngoscopy was done, polyps were exposed, assessed and excised with laryngeal-cupped forceps. The mergins of vocal cords were trimmed. Bleeding was not a problem. Patients were advised for voice rest for a period of two weeks and thereafter not to overuse voice. In 4-6 weeks time all patients have an acceptable and near normal voice.

Discussion

The maximum number of patients presented during 3rd 4th and 5th decade –the active phase of life. The average age of presentation for male were 36.5 years (15-50) and female were 30 years (16-45) which is contrary to the study of S.Bennet et al (1987) were average age of presentation for man were 52.5 years and women were 57 years.[6] this may represent the improved socioeconomic condition and longer active phase of European life.

The proportion of male and female was 2:1, but in study of Bettee M Stenberg 1988[2](out of 11 cases of vocal cord polyp 7 were female & 4 male) and of S Bennet et al 1987 all 29 patients were women, their might be due to women are equally working and active as males in developed countries and may be more susceptible to voice abuse due to thin vocal cords and their high pitch of voice.

Patients with vocal cord polyps were mostly smokers (70%) in our series, Bennett *et al* (1987) had all of his patients were heavy smokers [6] with consumption averaging 1.64 packs per day.

Vocal abuse noted in 40% patients with vocal cord polyps. Bennett et al (1978) found approximately 25% of his patients were voice abusers in the form of chronic loud talking

shouting, working in a vocally demanding job or working and talking in a noisy environment was encountered.

Hoarseness of voice of variable duration for three months to 4.5 years were found which is found in other series [3,6]

Polyps were affecting in either of the vocal cords in almost equal frequency as seen by others [2,4,6]

Surgical removal remains the mainstay of treatment and voice were noticed in almost all patients satisfactorily after two weeks of operation, patients who cannot leave the habit of smoking and or continue to abuse voice had relatively poor quality of voice found in 10% cases as observed on listening.

Conclusion

Hoarseness of voice is the commonest presenting feature for vocal cord polyposis. Vocal cord polyps are the consequences of overuse or incorrect use of voice occasionally predisposed by infection or smoking etc. Polyps usually affect people in 3rd to 5th decades –the active phase of life.

References

1. P.H.Damstie: disorder of voice (1987) in Scott brown's otolaryngology, edited by PM STEEL PP133-135 Butterworth and company (publisher)Ltd. 1987
2. Bettie, M Steinberg et al 1985-vocal cord polyps biochemical and histological evaluation, Laryngoscope 95.november 1985,pp1327-1331.
3. Hirano M, Kurita, Matuno K et al laryngeal tissue reaction to stress, the voice foundation part II, NewYork pp120.1980.
4. Klinsasser O pathogenesis of vocal cord polyp . Ann otol rhino laryngol 91,pp378-381.1982.
5. Lowenthal G. the treatment of polypoid laryngitis. Laryngoscope 68,pp1095-1104,1958.
6. Bennett S. Bishop S. Luperkin SMM, Phonatory characteristics following surgical treatment of

severe polypoid degeneration. Laryngoscope, 99,pp525-532, may 1989.