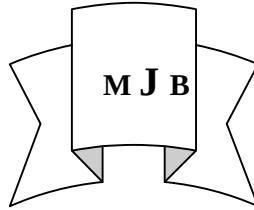


Three Years Videolaryngoscopic Experience in Basrah

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Abstract

Videolaryngoscopic findings for patients referred for various reasons in Basrah during the three years period (2002-2004) were reported, diagnosed, and analyzed.

1668 persons were examined, 611 of them were normal, and the remaining 1057 patients had various remarkable abnormalities that included in this study from them 467 were males , and 581 females ,the age range from (5-88) years.

The commonest videolaryngoscopic findings were chronic non-specific laryngitis (253 patients = 24%), followed by acute laryngitis (223 patients = 21%), while vocal cord nodules and polyps comprises 16% and 9% of patients respectively.

Laryngeal tumors comprises 7.8% of patients and 60% of them had glottic tumors, laryngeal tumors predominantly affected males (85% of cases).

Their was distinct higher incidence of acute and chronic non-specific laryngitis during cold whether, while the presentation of patients with vocal cord nodules usually at hot and moderately hot months.

الخلاصة

دراسة حول مشاهدات ناضور الحنجرة بواسطة المايكروسكوب والفيديو على عدد من الحالات المرضية في مستشفى البصرة ولمدة ثلاثة سنوات من 2002 - 2004 تشخيص وتحليل

ذ 1668 شخص ثم فحصة ، 611 منهم كانوا طبيعيين والباقي 1056 وجد بعض المتغيرات ، 467 منهم ذكور ، 581 اناث معدل الأعمار من 5 سنة الى 88 سنة معظم الحالات هي التهابات الحنجرة المزمنة (253) حالة = 24% 21% التهاب الحنجرة الحاد 16% عقدة الأوتار الصوتية 7,8% أورام الحنجرة 60% منها هي أورام الأوتار الصوتية معظم حالات التهابات الحنجرة خلال فترة الشتاء معظم حالات عقدة الأوتار الصوتية خلال فترة الصيف

Introduction

Laryngoscopy is the examination of the larynx using a rigid telescope, flexible fiberscope, or direct laryngoscope. When laryngoscopic findings are documented with a video camera, the procedure is called videolaryngoscopy [1].

Videolaryngoscopy is an excellent method of examining and documenting laryngeal anatomy, pathology and function. The larynx can be examined in the office with trans-oral rigid telescope (70 or 90 degree) or trans-nasal flexible fiberscope; the telescopic views are

sharper and clearer than the flexible fiberscope [2].

Videolaryngoscopy provides objective documentation by a variety of techniques, these techniques are useful for diagnosis, teaching, patient counseling, medical recording, and pre-and postoperative comparison [3].

The aim of this study is to throw some light on the role of videolaryngoscopy in evaluation of laryngeal diseases in Basrah.

Patients and Methods

The videolaryngoscopic finding of all patients underwent videolaryngoscopy using trans-oral rigid telescope with a rigid-rod quartz lens system, in the otolaryngology department in Basrah General Hospital for the years 2002, 2003, and 2004, were recorded, diagnosed, and analyzed.

The study included 1668 persons, 611 of them had no remarkable abnormal finding, and the remaining 1057 patient had remarkable abnormalities, from those 1057 patients, 476 males and 581 females, the age ranged from 5 to 88 years. They referred for videolaryngoscopy for various complaints including, sorethroat, hoarseness, dysphagia, dyspnea, snoring and cough.

The diagnosis of findings was decided by at least two otolaryngologists by careful studying and analyses of every case.

Results

As shown in Table I, the most commonly encountered videolaryngoscopic findings was chronic non-specific laryngitis (24%) which is more common in males and mostly affect those between 40-60 years of age.

The second common finding was acute laryngitis (21%) which in contrary to chronic laryngitis, more common in females, and mostly found in people in the 3rd and 4th decades of life.

Vocal cord nodules and polyps affect 16% and 9.5% of patients respectively, on the other hand, laryngeal tumors were encountered in 7.8% of cases with distinctly male predominance, and most commonly affect ages between 60-79 and 40-59 years respectively. Hypopharyngeal tumors were diagnosed in 1% of patients.

Figure I, presents tumor distribution concerning site and age groups, where glottic tumors rank first

(52.6%), followed by supraglottic (31.6%) and hypopharyngeal tumors (12.6%). Glottic tumors were more common in ages between 50-59 and 60-69 years and then 40-49 years. Supraglottic tumor shows somewhat similar pattern. Whereas hypopharyngeal tumors were more commonly found in people at age between 60-69 years, followed by 70-79 years, and then 40-49 and 50-59 years.

The distribution of some of laryngeal diseases according to the sides affected is shown in Figure 2, vocal cord nodules as well as vocal cord palsy have a distinct tendency to occur more on the left side than on the right or bilaterally, whereas vocal cord polyps occurs slightly more on the right than the left side, with small proportion occurs bilaterally, on the other hand, Reinkes edema and leukoplakia could occur on either or both sides.

Figure 3 presents the seasonal variation of the most commonly encountered diseases throughout the study period. Chronic non-specific laryngitis, although showed distinctly higher incidence during cold months, however, its incidence remain somewhat higher during moderate and hot months.

Acute laryngitis has clearly higher figures during cold times and to a lesser extent moderate times with low figures during hot seasons. Vocal cords palsy and polyps showed non-specific relation with seasons apart from the spurt increase in hot months of 2004. Vocal cord nodules showed some increment during moderate and hot seasons, and again, with sharp increase in incidence during hot months of 2004. The results of Reinkes edema, leukoplakia and laryngopharyngeal tumors were non-specific with regard to seasonal variation apart from the increase in the frequency of Reinkes edema and tumors during moderate and hot months in the 2004 compared to the same months of the preceding two years.

Table I Videolaryngoscopic findings according to the age and sex

Age group Diseases	-19		20-39		40-59		60-79		80-		total	%
	M	F	M	F	M	F	M	F	M	F		
Chronic laryngitis	-	-	50	17	82	42	38	24	-	-	253	24
Acute laryngitis	9	20	40	80	11	44	9	15	-	-	223	21
Vocal cords nodules	5	-	37	54	30	38	7	2	-	-	173	16
Vocal cords polyps	1	1	32	12	26	14	11	4	-	-	101	9.5
Vocal cords Palsy	1	-	19	16	15	16	16	6	-	-	89	8
Laryngeal tumor	-	-	4	1	33	6	34	4	1	-	83	7.8
Reinkes edema	-	-	5	12	12	9	2	1	-	-	41	4
Varices and ectasia	1	4	4	9	-	3	-	1	-	-	22	2
Vallicular cyst	-	-	3	4	4	3	-	5	-	-	19	2
Leukoplakia	-	-	-	2	9	1	5	-	-	-	17	2
Hypopharyngeal tumor	-	-	-	1	1	3	4	3	-	-	12	1
Laryngeal cyst	-	-	3	3	3	1	-	-	-	-	10	1
Laryngeal web	-	-	1	3	-	1	-	-	-	-	5	0.5
Laryngeal papillomatosis	-	-	2	-	2	-	-	-	-	-	4	0.4
total	17	25	200	214	228	181	126	65	1	-	1057	100

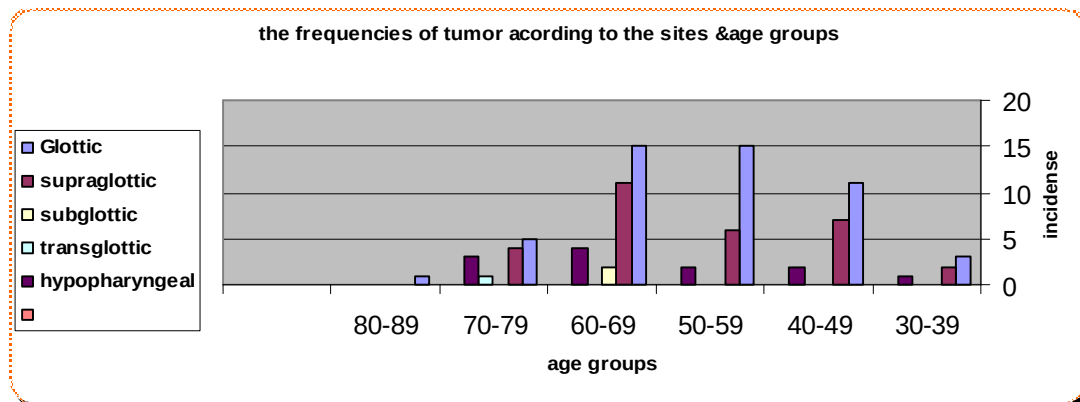


Figure I

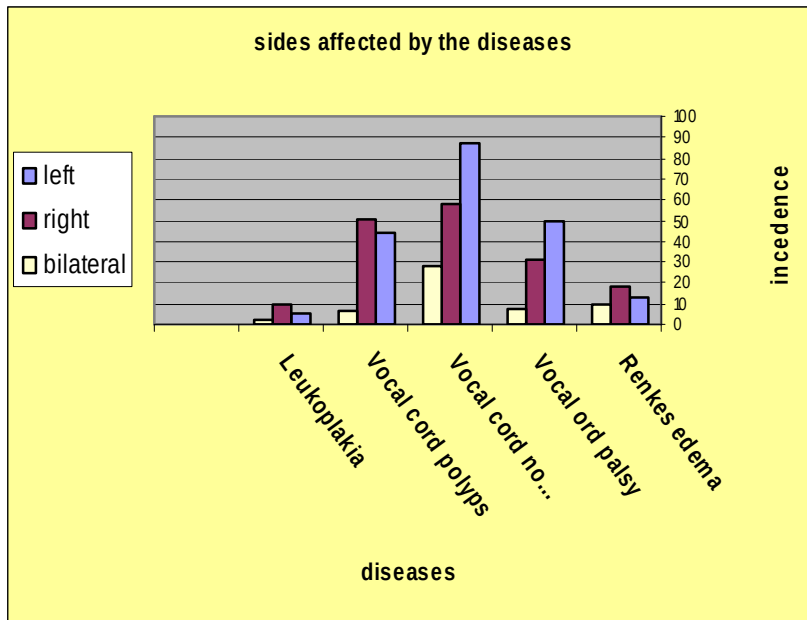


Figure II

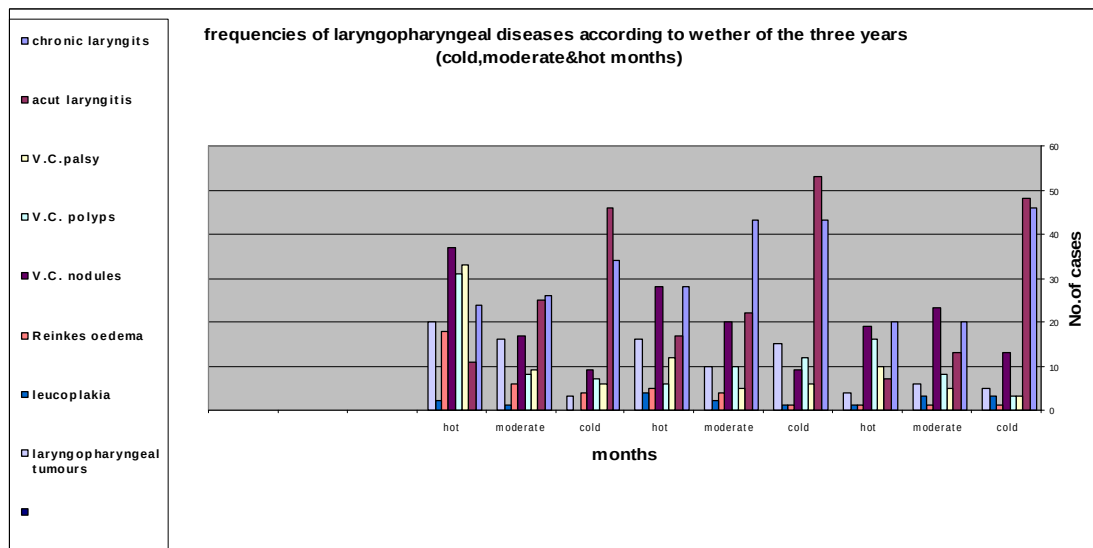


Figure III

Discussion

In Frankfurt in 1807, Philip Bozzini used an exotic, double-barreled instrument called a "lichtleiter" illuminated by a wax candle, to inspect a variety of canals, including the pharynx [4].

It is doubtful, however, that he ever actually saw the larynx, and from that time, different types of trials performed for

popularization of laryngoscopy till reach the revolution of videolaryngoscopy.

The commonest videolaryngoscopic finding revealed dry laryngeal mucosa with dry tenacious secretion or their may be posterior commissure erythema and arytenoids swelling (acid reflux), these findings are consistent with a chronic non-specific laryngitis [1]. This high incidence of chronic non-specific laryngitis may

attribute to relatively continuous exposure to dusty atmosphere or repeated inhalation of irritant chemical vapors of cars exhausts. Our finding is comparable to Maxwell Ellis [5] regarding the age and sex predilection of chronic laryngitis. The second commonest findings which are consistent with an acute laryngitis were swollen epiglottis and congested, edematous true vocal cords and inflamed arytenoids with streaming of pus [1]. It is called a cold in the throat, exposure to cold damp, dust and irritating agent including tobacco, are predisposing factor, and any age can be affected [6], but our finding shows its prediction to females and affect mainly third and fourth decades.

Vocal cord nodules and polyps affected 16% and 9.5% of our patients respectively, Brodnitz [7] reported 45% of 977 patients had a diagnosis of nodules, polyps, or polypoid thickening, and Kleinsasser [8], reported that slightly more than 50% of his 2618 patients had one of these benign entities. In the present study, vocal nodules commonly found in females than males and the common age group affected was (20-39) years, represented 53% of those had vocal nodules, and this is comparable to Bastian [2] study, the same author found that vocal polyp occur commonly in men and this applicable to our finding (69%).

Vocal cord palsy comprised 8% of all the videolaryngoscopic finding and it is usually unilateral 90%, this is higher than Terris et al report (9), he found almost 75% of patients have unilateral paralysis.

Laryngeal tumor comprises 7.8% of all the cases, it is predominately affecting males (85%), and the majority of patients belong to age group (40-79) years. Hypopharyngeal tumors comprises less than one quarter of the laryngeal tumors and it affect mainly the ages between 60-79 year, and there was no sex variations. Parker et al (10), found the male to female ratio has dropped from 15:1 to 4:1 in 1996. This changes result from participation of women in toxic work environment and

cigarette smoking. The incidence of hypopharyngeal tumors in USA has consistently been about one third of the laryngeal tumors [11].

Many studies show that risk of laryngeal cancer increase with increasing tobacco use [12]. With the exception of postcricoid tumors, which were common in women, all form of hypopharyngeal tumors are more common in men, usually aged 55-70 years [11]. In this study 60% of laryngeal tumors were glottic, 36% supraglottic, subglottic and transglottic tumors comprises 2% and 1% respectively, this is constant with Esterman and Downey finding [13].

The distinct higher incidence of chronic and a cut laryngitis during cold months may be attributed to increase the frequency of attacks of upper respiratory tract infection, Parker et al [10], stated that laryngitis occur as part of the common cold, he called it as cold in the throat. The occurrence of vocal cord nodules during moderate and hot months probably due to the voice abuse because of nervousness and anxiety because of terrible hotness in our country, or the pathological process started in the cold months but presents itself during the moderate and hot months

In the present study 91.5% of vocal cord palsy was unilateral, this is with acceptance of many studies and this is reported by Stell and Maran [15], in which the left side affected more than right because of long course of left recurrent laryngeal nerve. Vocal cord nodule commonly affect one side in the present study which is in contrary to what stated by Stanley and Elie [16], while vocal cord polyps commonly occur unilaterally and this is well known in many studies [16,17].

Leukoplakia which is the premalignant condition commonly affects one side in our study, the same thing reported by Yanagisawa [1].

Conclusion

Videolaryngoscopy is one of the most important recent method of evaluating the larynx, it is the best way to assess the anatomy, physiology and pathology of the larynx, it produces an enlarged image that may be recorded for detailed evaluation or saved for comparison with future examinations, it solves many important problems namely the accuracy of follow up, and one mind decision of query or difficult finding.

References

1. Yanagisawa E .Color atlas of diagnostic endoscopy in Otorhinolaryngology .1st ed. Igaku-Shoin publishers. 1997:114-144.
2. Bastan RW. Benign vocal fold mucosal disease In: comings CW. Otolaryngology- Head and Neck surgery. 3rd ed. Mosby publishers. 1998: 209-2129.
3. Yanagisawa E, Owens TW, Strother G, et al. Videolaryngoscopy – a comparison of fiberoptic and telescopic documentation. Ann Otol Rhinol Laryngol 1983; 92:430-436.
4. Karmody CS. The history of laryngology. In: Fried MP, ed. The Larynx: A Multidisciplinary Approach. Boston: Little, Brown, 1988:3-8.
5. Maxwell E. Chronic laryngitis. In: Ball antyne J, Groverge J. Scott-Browins Disease of the ear, Nose and Throat. 3rd ed. Lippincott publisher 1971: 333-373.
6. Maxwell E. Acute laryngitis. In: Ballantyne J. Groves J. Scott-Brow's Disease of the Ear, Nose and Throat 3rd ed. Lippincott publisher 1971: 311-333.
7. Brodnitz FS; Results and limitation of vocal rehabilitation. Arch Otolaryngel head and Neck surgery 1963; 77:148.
8. Kleinsasser O: Microlaryngoscopy and endolaryngeal microsurgery: technique and topical finding 2nd ed. Battimors. 1979, University Park Press.
9. Terris DJ, Arnstein DP, Nguyen HH. Contemporary evaluation of unilateral vocal cord paralysis, Otolaryngeal Head and neck surgery 1992; 07:84.
10. Parker SL et al: Cancer statistics, Cancer 1996: 46:819.
11. George LA, Robert HM. Malignant tumors of the larynx and hypopharynx. In: Coming CW otolaryngology-Head and neck surgery. 3rd ed. Mosby publisher 1998:2130-2175.
12. Rothman KJ et al. Epidemiology of laryngeal cancer. Epidemiology. Rev. 1980: 2:195.
13. Eusterman VD, Downey TJ. Laryngeal cancer. In: Jafek BW, Murrow BW, ENT secrets, 2nd ed. Hanley and Belfus publisher, 2001: 280-286.
14. Wrobel B, Abaza M. The Hoarse patient. In: Jafek BW, Murrow BW, ENT secrets. 2nd ed. Hanely and Belfus publisher 2001:208-212.
15. Stell PM, Maran AGD. Head and Neck surgery. 2nd ed. William Heinemann publisher 1978:94-204.
16. Stanley MS. Elie ER. Benign lesions of the larynx. In: Bailey BJ otolaryngology. Head and Neck surgery. 2nd ed. Lippincott- Raven publisher. 1998: 753-765.
17. Koufman JA, Posma GN. Controversies in laryngology. In: Bailey BJ. Otolaryngology-Head and Neck surgery. 2nd ed. Lippincott-Raven publisher. 1998: 859-872