

Pattern of Laryngeal Tumor in Jordan

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Abstract

Objective: To describe the clinical, histological, and epidemiological characteristics of patients diagnosed with Laryngeal tumor in our hospital over a period of 5 years.

Methods: A descriptive retrospective study was conducted on all cases of laryngeal neoplasm diagnosed at Department of Otolaryngology, King Abdullah University Hospital, Irbid, Jordan. Cases were studied regarding the variables of sex, age, alcohol use, smoking, presenting symptoms, location and stage.

Result: There were 21 cases, 19 males and 2 females, with the mean age of 66 (range from 46-104), 90% of them were smokers and none were alcoholic. Hoarseness of voice was the most common presenting symptom. In 62% of patients, the supraglottic area was the primary site and in 38% of them it was the glottic area. 17 patients presented as late stage with 3 patients who had distant metastasis. Squamous cell carcinoma was the predominant identified histopathology type and reported in 95% of cases.

Conclusion: Laryngeal tumor is uncommon in our area, with most of the cases being elderly males presenting at advanced stage. Primary prevention of this tumor must be addressed through the control of tobacco smoking and early detection and evaluation.

Keywords: Larynx, Tumor, Squamous cell carcinoma.

(*J Med J* 2008; Vol. 42 (3): 144-148)

Received

Accepted

August 13, 2007

November 18, 2007

Introduction

Laryngeal cancer accounts for 1% of all new cancers diagnosed in the United States and approximately 0.73 of all cancer deaths.¹ Over 90% are squamous cell carcinoma and these account for 27% of all head and neck cancers.² Despite multiple modalities of treatment such as surgery, radiation, and

chemotherapy, advanced laryngeal cancer continues to score one of the lowest 5-year survival rates.³⁻⁷ It has significance beyond that in most other sites, not only because of the early prejudice of the airway, but also because of the interference with important functions such as phonation and swallowing in some patients.

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Because of this tremendous impact on the quality of life, more attention has been focused on the quality of life after therapy, rather than only on the survival rate or disease-free survival.⁸⁻¹¹

This study was undertaken to evaluate the occurrence of laryngeal cancer in northern Jordan over the last 5 years with special reference to clinical, histological, and epidemiological characteristics.

Methods

Twenty one patients with biopsy-proven laryngeal cancer managed at department of otolaryngology in king Abdullah university hospital between July 2002 and June 2007 were included in this study. Patients' medical records, radiology evaluation and histopathology reports were reviewed and analyzed.

Result

There were 19 males and 2 female, with average age of 65.6 and SD of 13.4, patients' age distribution is shown in Figure (1). 90% of the patients were chronic smoker but none were alcoholic. All patients had hoarseness of voice at presentation, 30% had dysphagia, 19% had cough, 14% had dyspnea and 5% had referred otalgia. The average duration of these symptoms was 9.2 months (Range from 1-24). In 13 cases, the supraglottic area was the primary location, and in 8 cases it was the glottic area. Only in one case the tumor was carcinoma in situ, 3 cases were in early stage (I or II) the remaining were stage III and IV, of these, 7 patients had cervical lymph node spread and for 3 cases the tumor had distant metastasis at time of diagnosis and this was to the lung in two cases and thoracic trachea in one. In term of pathology, 20 cases (95%) were squamous cell carcinoma and 1 case (5%) was verrucous carcinoma.

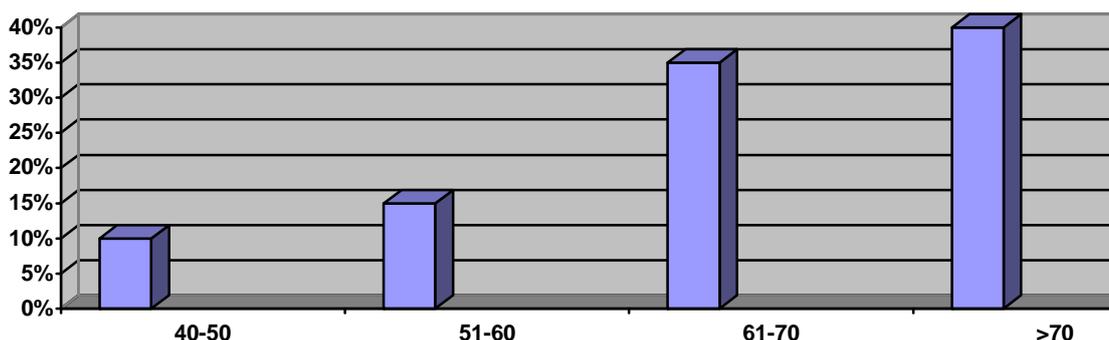


Figure (1): Age distribution of laryngeal tumor patients.

Discussion

Laryngeal cancer is relatively an uncommon type of cancer; however it is the most common cancer of the upper aerodigestive tract, this accounts for only about 0.9% of all cancer types diagnosed annually.^{1,2} The incidence of laryngeal tumors is closely correlated with smoking; the age-standardized risk of mortality from laryngeal cancer appears to have a linear relationship with increasing cigarette consumption.

Death from laryngeal cancer is 20 times more likely for the heaviest smokers than for nonsmokers.¹²⁻¹⁴ Although alcohol is a less potent carcinogen than tobacco, alcohol consumption is a risk factor for laryngeal tumors. In individuals who use tobacco and alcohol, these risk factors appear to be synergistic, and they result in a multiplicative increase in the risk of developing laryngeal cancer.¹⁵ 90% of our study cases were chronic heavy smokers but none were alcoholic, the male to female ratio of 9:1 in our

study is higher than those reported in western countries^{16,17} and may be explained by the lower percent of smoking women in our area. Other less important risk factors include: Infection with human papilloma virus, diets rich in spicy food and low in green leafy vegetables and vitamin A,^{18,19} exposure to radiation, occupation and laryngeopharyngeal reflux.^{2,20}

Tumors arising from different regions of the larynx probably have different risk factors and show considerable difference in clinical behavior and prognosis.²¹

Worldwide, glottic laryngeal cancer is more common than supraglottic cancer, with subglottic cancer being a rarity.^{1,2,17} Proposed explanations for this high proportion of supraglottic carcinomas in our cohort are differences in smoking, drinking and dietary habits, in addition to the advanced stage presentation of most of our cases which made it difficult to classify the site of origin without having error in the reported findings.

Glottic tumors have a more favorable prognosis than for supraglottic and subglottic tumors, this can be explained by two reasons, first, since cancers of the true vocal cords produce persistent and early change in voice quality, this symptom improves early diagnosis, in our patients with glottic tumor the duration of symptoms were 5.5 month average as opposed to 11.6 month of those with supraglottic tumor. Second, vocal cord carcinomas tend to be metastatically inefficient, since the vocal cord is very poor in vessels (both lymphatic and blood vessels) for stimulating the angiogenic cascade, thus resulting in a low rate of metastatic spread.

The vast majority of malignant tumors arising in the larynx are squamous cell carcinomas.

Verrucous carcinoma is a rare variant of well differentiated squamous carcinoma that was first described by Lauren Ackerman in 1947. He noted that this lesion had a characteristic morphologic appearance and specific clinical behavior and should be separated from other epidermoid carcinomas because even with extensive lesions it had an excellent prognosis with proper treatment. This lesion has a predilection for mucous membranes of the head and neck and is most commonly found in the oral cavity followed by the larynx. In the oral cavity and larynx, this lesion is primarily a disease of white males greater than 50 years of age. It makes up 2.45% of all squamous cell carcinomas in the oral cavity and 1 to 3.4% in the larynx. The diagnosis is made from the clinical findings of an exophytic, gray, bulky lesion with a papillomatous character and from the pathological findings of a broadly based tumor that is locally invasive. Microscopically, this lesion is composed of highly differentiated squamous cells, is broadly based, and has large blunt ended rete ridges with an intact basement membrane. An inflammatory reaction is also often present in the stroma composed of lymphocytes and plasma cells.²²

All other types such as adenoid cystic carcinoma, sarcoma, melanoma and lymphoma are rare^{2, 18} and account for less than 5 %.

Conclusion

Laryngeal tumor is uncommon in our patients but has distinct epidemiology and subdivision location. Smoking is the major risk factor being identified. Most cases presented late in advanced stage, this outlines the importance of educating people, especially those at higher risk, about the nature of the disease and it's presenting

symptoms. The physician, in turn, should obtain detailed history and perform careful examination and evaluation and in suspicious cases refer the patient in order to make an earlier diagnosis and effective treatment. We recommend conducting a multicenter study to further verify our results in order to design better prevention and treatment strategies.

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نمط سرطان الحنجرة في الأردن

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الملخص

الهدف

تهدف هذه الدراسة إلى بحث المواصفات السريرية والنسبوية ونسبة انتشار سرطان الحنجرة للحالات التي عولجت في مستشفى الملك المؤسس عبدالله الجامعي خلال السنوات الخمس الماضية.

الوسائل

دراسة استرجاعية وصفية لحالات سرطان الحنجرة التي عولجت في شعبة جراحة الأنف والأذن والحنجرة في مستشفى الملك المؤسس عبدالله الجامعي.

المعايير المستعملة هي: العمر، الجنس، التدخين، تعاطي الكحول، الأعراض السريرية، مكان الورم ومرحلته.

النتائج

تتضمن هذه الدراسة 21 حالة: 19 حالة ذكور وحالتان إناث، متوسط العمر 66 سنة (تتراوح ما بين 46-104)، 90% من المرضى مدخنين، ولا يوجد أي مريض يتعاطى الكحول.

الصوت الخشبي (بحة الصوت) كان العرض الرئيسي، 62% من الحالات كان في منطقة ما فوق المزمار، 38% في منطقة المزمار. 17 مريض كانوا في مراحل متأخرة من المرض، 3 مرضى منهم كان لهم انتشار سرطاني في الجسم. ورم الخلايا الشائكة كان النوع السائد و تم تشخيصه بنسبة 95%.

الخلاصة

ورم الحنجرة غير شائع في منطقتنا (شمال الأردن). معظم الحالات من كبار السن الذكور والذين يحضرون عادة في مراحل متأخرة من المرض. الوقاية الأولية للمرض هي كبح التدخين والكشف المبكر.

الكلمات الدالة: الحنجرة، ورم، ورم الخلايا الشائكة.