Aetiology of Hoarseness in Patients above 40 Years of Age
(Across Sectional Study)
Faaz Mahdi Mhabish
Rahi Al Yasiri
College of Medicine, University of Al-Qadisiyah.

The study aimed to determine the most common causes of hoarseness in patients above 40 years of age and the relationship between hoarseness causes and its duration.

Patient and Methods: the study is a cross-sectional study. It included 80 patients with hoarseness who were assessed between April 2011 and December 2011 at the ENT outpatient clinic in AL Diwaniya Teaching Hospital. In AL Diwaniya city, Iraq.

Results: 57 out of the 80 patients had hoarseness because of non-neoplastic causes giving an incidence of 71.25% (infective laryngitis n = 31, 23.875%, acid laryngitis n = 21, 21.25%, allergic laryngitis n = 13, 16.25%, vocal cord palsy n = 2, 2.5%, psychogenic n = 2, 2.5%). While hoarseness occurred in the remaining 23 patients as a result of neoplastic causes, giving an incidence of 28.75% (laryngeal carcinoma n = 12, 15%, vocal cord polypl n = 6, 7.5%, vocal cyst n = 3, 3.75%, laryngeal granuloma n = 1, 1.25%, benign tumor n = 0).

Abstract
Objectives: this study is designed to determine the most common causes of hoarseness in patients above 40 years of age and the relationship between hoarseness causes and its duration.

Patient and Methods: the study is a cross-sectional study. It included 80 patients with hoarseness who were assessed between April 2011 and December 2011 at the ENT outpatient clinic in AL Diwaniya Teaching Hospital. In AL Diwaniya city, Iraq.

Results: out of the 80 patients, 57 had hoarseness because of non-neoplastic causes giving an incidence of 71.25% (infective laryngitis n = 31, 23.875%, acid laryngitis n = 21, 21.25%, allergic laryngitis n = 13, 16.25%, vocal cord palsy n = 2, 2.5%, psychogenic n = 2, 2.5%). While hoarseness occurred in the remaining 23 patients as a result of neoplastic causes, giving an incidence of 28.75% (laryngeal carcinoma n = 12, 15%, vocal cord polypl n = 6, 7.5%, vocal cyst n = 3, 3.75%, laryngeal granuloma n = 1, 1.25%, benign tumor n = 0).

Conclusion: we also found that hoarse patients for aduration of more than one month were likely to have aneoplastic cause more than non-neoplastic cause.

Conclusions: the incidence of non-neoplastic causes of hoarseness in patients more than 40 years old are more common than neoplastic causes. Moreover, hoarse patients who have a longer duration of hoarseness have a greater chance to have aneoplastic cause than non-neoplastic cause.
Introduction
Hoarseness is defined as an abnormality in the quality of phonation. The abnormality is often described as being breathy, rough, noisy, and/or harsh.[1] There are many different conditions that result in hoarseness. However, these conditions share common physiologic pathways leading to the symptom. In this study, we concentrate on people with hoarseness above 40-year olds. Such people are considered a risk group to Laryngeal malignancy more than the younger age groups.[2] Also in this study we concentrate on the duration of the hoarseness on the basis of more or less than one month from the start of hoarseness, as it is justified by the widely accepted medical practice that if hoarseness persist for more than one month then the larynx should be visualized to exclude neoplastic causes.[3]

Patients and Methods:
Patients;
The present study is a cross sectional study. It involved 80 cases of patients with hoarseness of voice who consulted us at E.N.T.outpatient clinic at department of Otolaryngology in Al-Diwaniya teaching hospital between April 2011 and December 2011. The age range of patients is 40-80 years, the patients are 58 males and 22 females.

Methods;
All patients were examined by laryngeal mirror & flexible or rigid naso- or oro-laryngoscope. Some of them needed to be examined by direct laryngoscope with histopathological examination of the biopsied surgical specimen. The patients are divided into two groups according to the causes, which are: neoplastic (including: laryngeal carcinoma, vocal cord polyp, vocal cord nodule, laryngeal cyst, intubation granuloma, benign tumor) and non neoplastic (including: infective laryngitis, acid laryngitis, allergic laryngitis, vocal cord palsy, psycogenic, Reinke’s odema, traumatic).
The two groups of hoarse patients are also divided on the basis of one month duration from the start of hoarseness into more or less than one month groups.

Questionnaire

Results:
3:1 Age and sex distribution:
It has been found that male are affected by hoarseness more than female and the peack incidence of hoarseness is in the 5th decade of life as shown in table 3:1 and figures 3:1a&3:1b.
Table (3:1) shows the distribution of patients according to age groups and gender.

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Male</th>
<th>%</th>
<th>Female</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-50</td>
<td>25</td>
<td>31.25%</td>
<td>9</td>
<td>11.25%</td>
<td>34</td>
<td>42.5%</td>
</tr>
<tr>
<td>51-60</td>
<td>16</td>
<td>20%</td>
<td>8</td>
<td>10%</td>
<td>24</td>
<td>30%</td>
</tr>
<tr>
<td>61-70</td>
<td>14</td>
<td>17.5%</td>
<td>4</td>
<td>5%</td>
<td>18</td>
<td>22.5%</td>
</tr>
<tr>
<td>71-80</td>
<td>3</td>
<td>3.75%</td>
<td>1</td>
<td>1.25%</td>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>72.5%</td>
<td>22</td>
<td>27.5%</td>
<td>80</td>
<td>100%</td>
</tr>
</tbody>
</table>

Figure (3:1a) shows gender distribution
**Discussion**

It has been found in the present study that the incidence of hoarseness (in patients above the age of 40-years) due to non neoplastic causes is more common than that of neoplastic causes. It has also been found that the incidence of neoplastic causes in hoarse patients for more than one month duration is more than the incidence of non neoplastic causes (18 cases out of 26 hoarse patient have neoplastic causes giving an incidence of 69.23%).

These results agree with:

T. Kondogana, E. Seifertb (2003)[18]

In this prospective study, they found that the incidences of non neoplastic causes of hoarseness above 40 years are more common than neoplastic causes [the commonest cause is vocal cord palsy followed by vocal cord atrophy (presbyphonia)].

Sambhu Baitha et al (1999)[19].

In this prospective study, comprising of 110 hoarse patients, the non neoplastic causes of hoarseness in above 40-year olds are more than the neoplastic causes [infective laryngitis is the most common cause of hoarseness giving an incidence of 51% followed by laryngeal carcinoma giving an incidence of 14.54%]

Lundy Ds. Silvac et al (1998)[20]

In this retrospective study, they found that, the incidence of non neoplastic causes of hoarseness were more than neoplastic causes in 393 hoarse patients. Presbyphonia is the commonest cause, followed by vocal cord palsy.

Chopra, Kapora (1997)[21]

In this study, they found that 68% of patients with hoarseness more than one month duration have neoplastic causes.

Kandogan T., Olgun L., Gultekin G. (2003) [22]

In this study, they found that the most common cause of hoarseness was benign more than malignant in 98 patients above 60 years of age.

Naomi D. Gregory, Swapna Chandran, Deborah Lurie, Robert T. Sataloff (2010).[23]

In this study, they found that Non-neoplastic causes(Gerd, URTI,...) are the commonest in elderly.
Results of our study are in contrast with: P. G. C. Glachman & C. A. Van Hasselt (1992)[24]
In this retrospective study, the records of 169 hoarse patients were assessed. They found that the neoplastic causes of hoarseness were more common than non neoplastic causes. [vocal cord nodule is the commonest cause of hoarseness giving an incidence of 43%].
Metha (1985)[25]
In this study, they found the same incidence of neoplastic causes and non neoplastic causes of hoarseness in the hoarse patients for more than one month duration.
Muhammed Hafeez,Arif Raza Khan,Naseer Ahmed,Noor Sahib Khan(2010)[26]
In this study they found the laryngeal growth "Neoplastic" is the commonest aetiology in elderly.
Sheikh Saadat Ullah Waleem,Shaukat Ali,Muhammad Ischaqri(2005)[27]
In this study of 100 cases, they found that neo-plastic causes,(growth ),is the most common cause of hoarseness in elderly.
Morrison MD,Gore Hickman P.(1986) [28]
In this study they found, that Ca. larynx is the commonest cause of voice disorder in the elderly.

References
1.Garrett A., Francis B. Quinn.;Hoarseness,Grand rounds presentation,UTMB Department of otolaryngology April,13,2005
5.Gayle E.Woodson,Byron J.Baily,Head &Neck Surgery,otolaryngology, 3rd ed.;Department of otolaryngology,HNS,University of Florida,Gainesville,Florida;Upper Airway anatomy and function,chapter 42
6.Paul W. Flint,Cummings otolaryngology,Head and Neck Surgery,5th ed.,Vol.1,Part 5,Section 1,chapter 56,Laryngeal and haryngeal function
16. Michael Wareing,FRCS (ORL-HNS) and Rupert Obholzer MRCS;Clinical assessment,benign laryngeal lesion,larynx and hypopharynx;Current diagnosis & treatment,otolaryngology,HNS,2nd ed.,part viii,1.29.p.430-432.
17. Robin A. Samlan;Jackie Gardner-Shmidt,Melda Kunduk;visualization of Larynx,Cummings otolaryngology HNS,vol.1,part5,section 1,1.57.
19. Sambhu Baitha et al
A study comprising of 110 cases of hoarseness was carried out in Department of Otolaryngology. HNS, M. G. I. S. Sewagram-442702. India. Indian Journal of Otolaryngology
22. Kandogan T., Olgun L., Gultekin G.
Causes of dysphonia in patients above 66 years of age, department of otalaryngology, SSK, Izmir training hospital, Izmir, Turkey; vol. 11, 1, 5, p. 139-143, Nov. 2003.
25. Metha
An Aetiological study of hoarseness of voice, a thesis submitted for muster of surgery (Otolaryngology), Gujarat University, India.