

Prevalence of Laryngeal Alterations in the High Respiratory Endoscopy Service

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SUMMARY

Introduction:

Currently, the flexible fibrolaryngoscopy is considered to be a first choice method in the otorhinolaryngological exam, mainly in the laryngeal functioning evaluation.

Objective:

The objective of the study is to describe the prevalence of laryngeal alterations; observed in the high respiratory endoscopy service of the University, by matching them with the patients' age and sex.

Method:

We carried out a retrospective study by approaching records of two hundred and fourteen patients of the High Respiratory Endoscopy Service attended in a period of 18 months. The results were evaluated in the SPSS program, version 10.0, and we carried out frequencies evaluation, central tendency and standard deviation measurements and association test (chi-square).

Results:

Out of the 214 patients analyzed, 21% (n=45) of suggestive signs of Gastroesophageal reflux disease (GERD) and 7.5% (n=16) of suggestive signs of larynx cancer (from which 7 were confirmed) and the other ones of 71.5% (n=153) considered to be normal. Out of 45 patients who presented GERD, the frequency was higher in the female sex, and the prevailing age range was higher than 43 years. Out of the seven patients who had larynx cancer confirmed all cases were in the male sex and age range older than 43 years.

Conclusion:

The larynx cancer was clearly more prevalent in men. As to the patients with suggestive signs of GERD, there was no significant difference of prevalence between sexes.

Keywords:

endoscopy, voice disorders, gastroesophageal reflux, prevalence, head and neck neoplasms.

INTRODUCTION

The modern laryngology features a wide repertoire of diagnostic methods. The laryngoscopy carried out with flexible endoscope, introduced by SAWASIMA and HIROSE in 1968 (1), not only allows for a full view of the nasal cavity, but also enables the examining of the rhinopharynx, oropharynx and larynx (2, 3).

Such technique is seen as the first choice in situations in which the visual inspection of the several structures that compose the upper airways is required, which is not always possible through the traditional means, such as anterior and posterior rhinoscopy, direct oroscopy and indirect laryngoscopy.

In the last years, the flexible fibrolaryngoscopy has been acquiring more objective parameters for evaluation of the most common otorhinolaryngologic pathologies, enabling to use it as a propedeutic means of initial diagnosis and in the follow up of responses to clinical therapies or established surgeries (4).

The gastroesophageal reflux disease (GERD) is defined as a chronic affection resulting from the reflux of part of the gastric content (and sometimes, gastroduodenal) to the esophagus and/or adjacent organs (pharynx, larynx, bronchia), causing a variable spectrum of esophageal and/or extra-esophageal signs and symptoms associated or not to tissue lesions (5).

It is estimated that 5% to 20% of the world population have GERD extra-esophageal complications. Respiratory, otorhinolaryngological and even dental manifestations have been reported with a higher frequency in the last years (6).

The presence of otorhinolaryngological signs and symptoms may be found in 4% to 10% of the patients with GERD (7). One of the most frequent complaints in otorhinolaryngological outpatient services is the sensation of globus that in 23% to 60% of the cases is grounded on the GERD as its etiological factor (5, 8).

In addition to this, the GERD may lead to more severe situations, such as mucous dysplasia and/or larynx cancer and hypopharynx due to the local epithelium is not prepared for acid exposure (9).

Based on the diagnostic advances provided by the flexible nasofibroscope, this work aims at describing the prevalence of laryngeal alteration observed in the Upper Respiratory Endoscopy Service, and correlating them to the patients' age and sex.

METHOD

It is a prevalence study, in which the nasosinus and laryngeal endoscopic exams reports of 214 patients, carried out in the Upper Respiratory Endoscopic Service of the University, were analyzed in a period of 18 months.

As for the presence or not of dysphonia, the functional, organic and organico-functional dysphonia were included in the same group. As for the laryngeal signs, we described any kind of alteration that was not considered to be normal, in which in the case of laryngeal carcinoma, it presented ulcerated and/or papillomatous exophytic lesion. As suggestive signs of GERD we included alterations such as thickening of the interarytenoid fold, hyperemia or edema of the larynx and/or posterior wall, laryngeal pachydermia and/or contact granuloma/ulcer.

The endoscopies were routinely used in the Service, and the results were analyzed in the program Statistical Package for the Social Sciences for Windows (SPSS), version 10.0, through frequency measurements, central tendency measurements, standard deviation and association test (Chi-square).

The variables analyzed were age, sex and diagnosis. To proceed with statistical analysis, the patients were divided according to the age into two groups: less than 43 years and more than 43 years old.

The work was approved by the Ethics Committee in Research of the University.

RESULTS

We reviewed records of fibrolaryngoscopy procedures carried out in 214 patients: 127 of the female sex (59.3%) and 87 of the male sex (40%). The mean age was 40.5 (± 17.4) years. Only 50 (23.4%) patients had dysphonia.

The fibrolaryngoscopy procedures findings revealed that, among the records researched, 16 (7.5%) presented a suspicion of larynx carcinoma (out of which, 7 were histologically confirmed) and 45 (21%) diagnoses suggesting GERD. The remaining 153 (71.5%) patients were within the limits of normality.

The relationship between the endoscopic diagnoses and the patients' age and sex is described in Tables 1 and 2.

Out of 16 patients who had suspicion of larynx carcinoma, 11 were of the male sex (68.7%) and 5 of the

Table 1. Relation between the endoscopic diagnostic suspicion and sex.

| Diagnosis | Male | Female | p |
|------------------------|------------|------------|-------|
| Larynx carcinoma(n=16) | 11 (68,7%) | 5 (31,3%) | 0,017 |
| GERD (n=45) | 21 (43,7%) | 24 (53,3%) | 0,73 |

Legend: GERD - Gastroesophageal Reflux Disease.

female sex (31.3%). We verified, by means of the Chi-square Test, the statistically significant difference between both groups ($p=0.017$). The prevalence of the laryngeal symptoms was higher in individuals older than 43 years (87.5%), and the difference between the groups was statistically significant ($p=0.001$).

As for the suggestive diagnosis of GERD, 24 patients were female (53.3%) and 21 were male (43.7%). When the two groups were compared, through the chi-square test, there was no statistically significant difference ($p>0.05$), and was more prevalent over 43 years old (51.1%) ($p>0.05$).

DISCUSSION

As for the GERD, we verified in this study a major prevalence on the female sex. This results disagrees with WANG et al. (10), who studied the GERD epidemiology in an adult population in Northwest China, with 2789 dwellers of the region aged between eighteen and seventy years, and verified the prevalence significantly higher in the male sex and in the age range from thirty to seventy years old.

KOUFMAN et al., (10), in turn, observed the gastroesophageal reflux disease prevalence in 113 patients with laryngeal and voice disorders in a period of five months, with the age range over fifty years.

BURATI et al. (12) carried out a retrospective study with 157 patients with suggestive signs of gastroesophageal reflux upon videolaryngoscopic exam. They were evaluated as for age, sex and main complaints, and 110 patients were female (70%) and 47 were male (29.9%), in the age range from 21 to 85 years old, according to our study.

The prevalence of GERD concerning sex and age range has not been studied enough. According to the literature the prevalence is from 10% to 20% of the general population, affecting any age range, and in children it prevails in infants, disappearing in 60% of the cases up to the age of two years and, in almost all the rest, persisting until the age of four years (13). On the other hand, we observed that, in our sample studied, there was a higher prevalence of this disease over 43 years old.

Table 2. Relation between the endoscopic diagnostic suspicion and the age range.

| Diagnosis | <43 years | >43 years | p |
|------------------------|------------|------------|-------|
| Larynx carcinoma(n=16) | 2 (12,5%) | 14 (87,5%) | 0,001 |
| GERD (n=45) | 22 (48,9%) | 23 (51,1%) | 0,88 |

Legend: GERD - Gastroesophageal Reflux Disease.

In another study, we verified the prevalence of dysphonia in 86% of the patients analyzed, more frequent in the female sex (14), and showing that, as well as we did, the female sex has a higher tendency to present with laryngeal alterations compared to the male sex, which is also described by other authors (15, 16, 17).

ALTMAN et al. (18) reported in their study that, upon analysis of a hundred and twenty patients who attended the voice center, with dysphonia, in a period of thirty days, verifying the prevalence of age range, sex, main symptoms and laryngoscopic findings, they noted the prevalence of dysphonia in the female sex (60%) and the mean age range of 42.3 years, findings also similar to those observed by SAMA et al (19).

In our study, we confirmed there was 7.5% ($n=16$) of the patients with suspicion of larynx cancer, which was confirmed in seven patients. The prevalence was significantly higher between the male sex and in the age range higher than forty-three years.

MOLONY et al. (20) reported that the larynx cancer has a major prevalence in men with age range peak between 60 and 70 years. They also report that the tumor is more present in the male than the female sex (10:1).

In the works by CURIONI et al. (21), MIRANDA et al. (22), and JASEVICIENE et al. (23) they also observed a higher prevalence of the larynx cancer in the male sex and the age range between the sixth and seventh decade of life.

WUNSCH (24) studied the larynx cancer epidemiology in Brazil, where he observed the larynx carcinoma was predominantly found in the age range from 50 to 70 years (63%), the proportion between the male and female sexes reached 6:1, and, compared to our study, this proportionality was of 2:1 favoring the male sex.

CONCLUSION

As to the prevalence of diseases diagnosed in the Upper Respiratory Endoscopy Service, we noted that the larynx cancer was more prevalent in men older than 43 years.

The GERD, in turn, did not present any significant difference of prevalence between the sexes. It is known as a disease that has been showing an important frequency increase in the last years, although many times it behaves silently.

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