CHRONIC HOARSENESS

REPORT OF TWO HUNDRED CONSECTIVE CASES

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Chronic hoarseness may be classified not as a clinical entity, but as a symptom which designates interference or impairment of the normal function of phonation. It is a quite common complaint occurring during the life of almost every individual, any time from infancy to senility. *Jackson* and his associate[1] in their textbook enumerate more than fifty etiological factors which have been stressed in many excellent reviews. I am attempting here to review the literature and to discuss chronic hoareness as this entity presents itself to the specialist in an average clinic. My cases have been analyzed as to incidence of the etiological factors and the clinical importance of the duration of the symptom.

The pathology of chronic hoarseness varies in each individual patient. *Daily*[2] mentions chronic non-specific laryngitis as the most common cause of chronic hoarseness. This clinical entity is invariably due to an unhealthy condition higher in the respiratory passages and is secondary not only to chronic infection of the teeth, tonsils, nose and sinuses, but results also from excesses of tobacco or alcohol (*McCready*,[3] *Pryor*,[4] *Meyers*,[5] *Turner*[6] and *Negus*,[7]).

Just as pathology of the upper respiratory tract may cause an involvement of the larynx, so also may chronic infection below the vocal cords, as bronchiectasis, lung abscess and bronchial asthma, initiate and prolong a chronic laryngitis by bathing its structures in an irritating discharge with resulting local irritation. *Oaks*, *Merrill* and *Oaks*[8] discuss chronic hoarseness without any demonstrable local pathology and reflexly secondary to a chronic ethmoiditis. When searching for the exciting cause of chronic laryngitis, one must realize that external irritants, injury, and general systemic conditions may be the responsible factors. *Hirsch*[9] enumerates trauma, blows, stab and gunshot wounds, foreign bodies, inhalation of hot, dry, dusty air, stone and metal dust, irritating vapors of chemical substances, both in industry and in war. A thorough physical examination may disclose one or several conditions as the exciting cause and may reveal such diversified conditions as chronic nephritis, diabetes mellitus, *Hodgkins'* disease as described by *Cooke*, angioneurotic edema, herpes and beri-beri as discussed by *Matsui*.[10]

A weakness or paralysis of one or both of the vocal cords is generally noted to be the cause of chronic hoarseness, and this may be due to either a peripheral or a central lesion. The recurrent laryngeal nerves are the most vulnerable and frequently are injured or traumatized during a thyroid operation. *Arnord*,[11] *Lederer*,[12] *LeJeune*[13] and *Waugh*[14] enumerate such local conditions as trauma of the neck, thyroid enlargement, cervical glands, esophageal carcinoma, mediastinal glands, thickened pleura, thoracic tumors, aortic aneurysma, enlarged heart, dilatation of the left auricle and pericardial effusion. In the articles of *Lischkoff*,[15] *Daily*,[2] *Woodward*[17] and *Ridout*[18] central lesions which may produce hoarseness are discussed, and mention is made of otitis media with jugular thrombosis, deep cerebellopontine angle tumors, encephalitis lethargica, multiple sclerosis, general paresis of the insane, post-diphtheria, pneumonia, syringmyelia, anterior poliomyelitis, bulbar lesions and toxic neuritis as from lead poisoning.

Benign new growths produce hoarseness as an early symptom in their development. These growths include singers' nodules, discussed by *Levbarg*[19] and *Voorhees*,[20] papillomata, fibroma, pachydermia laryngis, chondroma, lipoma, angioma or varix as reported by *Robb*[21] and amyloid tumors discussed by *Kramer*.[22] These are included in the numberous articles of several authors, *New* and *Erich*[23] and *Jackson*, *Coates*, *Jackson*,[1] *Mackenty*,[24] *Cunning*,[25] *Tilley*[26] and *Daily*.[2] Embryonal and blood or lymph retention cysts have been discussed by *Decherd*.[27] *Chevalier Jackson*[28] and the late *J. E. Mackenty* stress the importance of biopsies before any new growth is considered benign. This becomes more significant when one considers that the possibility of a premaliginant change may be present in what otherwise appears to be a benign new growth.

Hoarseness in which a local pathological lesion is evident must always bring to mind the triad of syphilis, tuberculosis and malignancy as the direct cause. Any one of this triad or any combination of these may coexist in the larynx, as noted by *Mackenty*,[24] *Lederer*,[12] *Woodward*[17] and *Tucker*.[16] Syphilis in its protean manifestations may produce dysphonia in numerous ways, varying from a gumma locally to locomotor ataxia centrally. Where recognition of the etiology is delayed irreparable damage may result locally due to ulceration, infiltration and fixation of the arytenoid cartilages. In any one or a combination of the above mentioned triad, the true vocal cords may be destroyed, whereupon the phonatory function may be assumed by the plicae ventricularis or what has been termed by Jackson and Jackson as "Dysphonia Plicae Ventricularis."

Tuberculosis of the larynx may not produce hoarseness because of the variance of location of the pathological process (*Dworetzky*[29]). *Wagers*[30] quotes *Patterson*, resident pysician at White Haven, Pennsylvania sanitarium, who states that of 239 tuberculosis in-patients 82 gave a history of hoarseness upon admission and 49 had definite laryngeal disease. Although hoarseness may not always be present in laryngeal tuberculosis, it may be the first and only symptom of a more gener-

alized infection. *Clair Thompson*[31] states that the larynx is involved in 4.8 per cent of early pulmonary tuberculosis and nearly 50 per cent of the advanced cases.

Carcinoma produces hoarseness as the earliest and most constant symptom. The extreme importance of the early recognition of this pathological entity cannot be overemphasized, for if this were true there would be few deaths from carcinoma of the larynx. This has been stressed by such authors as *Jackson* and *Jackson*, *Watson-Williams*, *Woodward*, *Powers*, *Waugh*, *LeJeune*, *Watkyn*, *Thomas*, *Arnold*, *Jones* and *Imperatori*. Early intrinsic carcinoma of the larynx offers a better prognosis than it does in any other part of the body because of the lymphatic arrangement; however, the cancer once having gained the regional cervical lymph glands, prognosis becomes hopeless. Jackson and Jackson state that 98 per cent of cases of intrinsic carcinoma start in or very close to the vocal cords while about 2 per cent start in regions so remote that hoarseness comes later, but even these cases are rarely incurable by laryngectomy.

Local lesions whether inflammatory, bengin, malignant or paralytic may not be present, and when no knownlesion exists to account for hoarseness, it must be realized that functional disturbance may be the basis of the symptom.

A study of the last 200 consecutive cases of chronic hoarseness seen in the out-patient clinic of our Department for the past three years was undertaken from the point of view of etiology and duration of this symptom. (Table I). No survey of the prognosis, treatment or final outcome of the patient was made.

TABLE I

Table of Etiology

1.	Chronic non-specific laryngitis	100 cases
2.	Benign neoplasms	41 〃
3.	Carcinoma of larynx	25 〃
4.	Tuberculosis of larynx	23 〃
5.	Vocal cord paralysis	2 〃
6.	Syphilis of larynx	1 〃
7.	Miscellaneous group	8 〃

In this study, chronic non-specific laryngitis was the chief cause of hoarseness, accounting for 100 cases, or 50 per cent; Benign neoplasms followed, of which there were 41 cases, or 20.5 per cent. About two-thirds of the cases in this series were due to chronic non-specific laryngitis and benign neoplasms, and in remaining third hoarseness was produced by carcinoma of larynx in 25 cases, or 22.5 per cent; tuberculosis, 23 cases, or 21.5 per cent. Carcinoma and tuberculosis were about equal in their occurrence, and the two combined occurred slightly more frequently than the benign neoplasms. The remaining cases were due to vocal cord paralysis, 2 cases, syphilis, 1 case, and a miscellaneous group of eight cases.

Chronic infection of the accessory nasal sinuses, either alone or associated separately with allergy and nasopharyngitis was noted as the etiological factor

TABLE II

A. Chronic non-specific laryngitis	100 Cases
1. Chronic purulent sinusitis	24 cases
2. Chronic nasopharyngitis	22 〃
3. Chronic productive bronchitis	18 〃
4. Chronic tonsilitis	14 〃
5. Nasal and allergy	7 〃
6. Irritants as tobacco and special chemical product	4 〃
7. Undetermined etiology	11 〃

B. Duration of chronic hoarseness cases of non-specific laryngitis	
1 to 30 days	37 cases
1 to 6 months	39 〃
6 to 12 months	14 〃
1 to 6 years	10 〃

Average duration 8½ weeks

in over 50 per cent of the 100 cases of chronic non-specific laryngitis (Table II). Chronic infection of the bronchial tree or tonsilitis was the causative factor in the remainder of these cases, except for eleven in whom the etiology was not determined and four in which the laryngitis was secondary to chronic irritation from excess of tobacco or special chemical product. The average duration of hoarseness was eight and a half weeks although in the majority of cases the patients admitted a previous consultation with some physician or laryngologist. Thirty-seven patients had noticed their hoarseness for 1 to 30 days; 39, from 1 to 6 months, 14, from 6 to 12 months, and 10 patients persisted with the symptoms from 1 to 6 years before consulting the clinic.

Benign and malignant neoplasms produced hoarseness in every cases of this series and together accounted for 48 per cent of this group of patients. (Table III). As would be expected, benign neoplasms were more frequent than malignant

TABLE III

Duration of hoarseness cases of benign neoplasms	41 Cases
Average duration of hoarseness	one year
Hoarseness varied from	2 weeks to 3 years
Average duration before seen at our clinic	
0 to 6 months	13 cases
6 to 12 〃	4 〃
1 to 2 years	2 〃
2 to 3 〃	1 〃

growths in the proportion of two to one. The average duration of hoarseness in the benign cases of this series was almost one year, but in the malignant cases the symptoms of hoarseness were present on the average of six months varying from one month to five years. (Table IV).

TABLE IV

Duration of hoarseness cases of malignant neoplasms	25 cases
Average duration of hoarseness	6 months
Hoarseness varied from	one month to 5 years

Tuberculosis of the larynx produced hoarseness in almost every cases except two patients with no complaint of it. Five patients had noticed hoarseness for 1 to 30 days; 11, from 1 to 6 months, 3, from 6 to 12 months, and 2, a year and over. (Table V).

TABLE V

Duration of hoarseness cases of tuberculosis of larynx		23 cases
Average duration of hoarseness		2½ months
1 to 30 days	5 cases	
1 to 6 months	11 〃	
6 to 12 〃	3 〃	
1 year and over	2 〃	

A glance at preceding chart reveals a remarkable discrepancy in the average time that patients with different clinical entities appeared for examination, e.g., chronic non-specific laryngitis, eight and a half weeks, and benign new growths for one year. This may explained by the fact that the underlying etiology of most of the cases of chronic non-specific laryngitis brought the patient to the physician earlier that did the isolated symptom of hoarseness. It was noted that several patients with benign new growths had known of their condition for years but contrary to professional advice on several occasions preferred to leave well enough alone. Many of the patients with early carcinoma of the larynx had been treated for nasal and throat infections for weeks and months. Some presented a more rapid, progressive hoarseness as well as associated symptoms of dysphagia, hemoptosis and aphonia, while others had seen other physicians but failed to heed advice given to them. By the preseding facts we have attempted to explain the average of five months before this group of patients consulted our clinic.

Hoarseness is still neglected by patient and physician, which may be due to the fact that it so often accompanies and subsides with the common cold or that the patient, as well as the physician, hopes the trouble will clear up by tomorrow.

If the patient were seen early with proper diagnosis and treatment, there would be little necessary of further writing on the subject; however as has been noted in our experience this is far from being true. This is no doubt the experience of every member of the profession.

SUMMARY

1. In 200 cases of chronic hoarseness, the occurrence of chronic non-specific laryngitis was the largest number accounted for 50 per cent.

2. There was an unusually close ratio, 41 to 25, of benign to malignant new growths.

3. Carcinoma and tuberculosis were about equal in their occurrence, the former being found in 25 patients, the latter occurring in 23.

4. Vocal cord paralysis was found to be the etiology only two and syphilis was one in 200 patients with chronic hoarseness.

5. A small group of four per cent were classified as miscellanceous and included cases of psychoneuroses, myasthenia gravis, hysteria and psychopathatic personality.

6. The group of patients in this series continued with their symptom of hoarseness for a varying but prolonged period before seeking relief, the average duration of which was as follows: chronic non-specific laryngitis, eight and a half weeks; benign neoplasms, one year; malignant neoplasms, six months; tuberculosis, two months.

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