Malignant Tumor of the Trachea*

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There is a constant rise in incidence of bronchial carcinoma, while that of tracheal carcinoma remains very low. We present a case of a 61-year-old man, a heavy smoker, who was admitted to our hospital with a diagnosis of bronchial asthma which did not respond to treatment. Bronchoscopy examination revealed a tracheal tumor. We stress the importance of endoscopy in cases of unclear respiratory symptomatology, especially when there is stridor.

Carcinoma of the trachea is one of the rarest tumors. It is not even mentioned in most well-known textbooks of clinical medicine and pathology. This is unfortunate because it can simulate other illnesses, and early diagnosis makes successful treatment possible in some cases.

CASE REPORT

The patient was a 61-year-old man who immigrated to Israel in 1951. He was a construction worker who had been smoking 40 cigarettes a day for many years. Two months prior to his admission he developed shortness of breath and blood-streaked sputum. X-ray pictures did not reveal any pathologic findings. His condition became gradually worse and when pneumonia was diagnosed he received antibiotics. Nevertheless, the coughing and shortness of breath increased. He was admitted to another hospital where spastic bronchitis with bronchiectasis was diagnosed. Routine antiasthmatic treatment including the use of cortisone was to no avail. The patient was transferred to our department in a serious condition, with marked shortness of breath, cyanosis, severe cough and expectoration of blood-streaked sputum. There was marked stridor. On auscultation, there was much wheezing and rales in the bases of the lungs. Pulse rate was 116, blood pressure 220/115; ECG indicated cor pulmonale. The liver was enlarged by 5 cm; BSR 86/110; Blood cell count gave 12,000 leukocytes with shift to the left. The biochemistry of blood and electrophoresis were normal.

Roentgenogram of the chest showed fibrotic changes in both bases consistent with bronchiectasis (Fig 1). The condition of the lungs as well as the condition of the heart could not account for the extreme respiratory distress. The bronchospasm was not strong enough to explain the distress either. On the other hand, the stridor made us suspect that the pathology was to be found somewhere in the upper respiratory tract. Laryngological examination was negative. Tomography of the trachea was not informative (Fig 2). In the meantime cytologic study of the sputum for malignant cells gave negative results. Endoscopic examination revealed above the carina a cauliflower-like mass which on subsequent biopsy proved to be a carcinoma (Fig 3). After radiation treatment (Tel Hashomer Hospital) of the tumor there was marked improvement in the patient's condition; the dyspnea and wheezing diminished to a great extent.

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Figure 1. Fibrotic changes in both bases.

Figure 2. Tomogram of the trachea (post cent) shows no sign of tumor.

DISCUSSION

Carcinoma of the trachea can occur at any age but is more common in later life. In Olsen's review the ratio of men to women was 5:3. Half of the tracheal tumors were localized in the lower part of the trachea; one-third in the upper part; one-sixth in the middle part of the trachea.

Smoking habits of patients in previously published cases have not been recorded usually but the general opinion is that heavy smokers contract the disease more often than nonsmokers.

Pathology and symptoms

Squamous cell carcinoma is by far the commonest type of the tracheal tumor. Adenocarcinoma and sarcoma are rare. The symptoms depend on (1) localization
INTERMITTENT LEFT POSTERIOR HEMIBLOCK

Figure 3. Tracheal biopsy (H and E × 100). Group of non-keratinizing squamous cells in submucosa showing malignant changes.

of the tumor, (2) type of attachment, and (3) size of the tumor and width of the trachea. In general the symptoms depend rather on mechanical disturbances than the type of the tumor: if the tumor hangs freely from the pedicle it may obstruct the bronchus intermittently. If the obstruction occurs at inspiration, it will produce atelectasis, while obstruction at expiration will cause emphysema. The commonest symptoms are: irritation in the throat, especially noted with loud talking and overexertion. Irritating cough usually is not productive at its onset but as the tumor enlarges, secondary infection with secretion of mucus appears and the cough becomes productive. Dyspnea is constant or paroxysmal, often in the morning when secretion accumulates below the site of the tumor. The paroxysmal dyspnea often simulates asthma and most patients subsequently found to have tracheal tumor have had thorough allergic studies and treatment for asthma prior to the recognition of the true nature of the distress. Hemoptysis occurs sometimes. Death may be due to suffocation, pneumonitis, massive hemorrhages, tracheo-esophageal fistulae or metastases.

Diagnosis

Each case with unclear respiratory disturbances has to undergo tracheobronchoscopy. The roentgenogram of the thorax is not helpful in most cases. The value of tracheal tomography for the lateral wall tumor, and lateral tomography for the anterior tracheal wall tumor was demonstrated and the use of radiopaque contrast was recommended. Cytologic examination of the sputum is very helpful in diagnosis, especially in the diagnosis of squamous cell carcinoma.

Treatment

Malignant tumors of the trachea, amenable to surgery require open operation of the trachea including extirpation of the mass with the underlying cartilaginous rings. After this procedure some sort of tracheoplasty for repair of the deficiency has to be done. More recently excision of the mass with end-to-end primary anastomosis has been performed with success. In all inoperable cases the advent of cobalt therapy has improved the result of radiation treatment.

REFERENCES

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Intermittent Left Posterior Hemiblock

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A 45-year-old woman with cardiomyopathy of unknown nature developed a pattern of intermittent left posterior hemiblock (LPH), in the presence of atrial fibrillation. The conduction disturbance was rate dependent, different degrees of LPH were documented, and the duration of recovery in the posterior division of the left bundle branch changed from day to day. The problem of complete versus incomplete LPH is discussed. LPH shifts the QRS direction inferiorly and to the right, the initial QRS forces superiorly and to the left, and increases the QRS interval no more than 0.02 sec. So far as we were able to determine, this is the first reported case of pure, intermittent LPH.

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