CHAPTER 35

AIRWAY TUMORS

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Primary malignancies of the trachea are rarer when compared to larynx and lung malignancies. Malignant tracheal obstructions rather develop in the form of metastasis of other primary tumors. If an early diagnosis is established, most of the patients with tracheal tumors can have the chance of being cured with surgical resection. 80-90% of tracheal tumors in adults are constituted by malignant tumors. [1] Tracheal tumors are quite rare in children, and primary tracheal tumors are observed to be benign by 60-70 % [2, 3].

EPIDEMIOLOGY:

Since tracheal tumors are rare, epidemiological data are limited. Within all the malignancies, primary tracheal tumors correspond to %0.1i-0.4% [4]. Tracheal tumors comprise 2% of all the upper respiratory tract tumors [5].

CLINIC:

Increased respiratory symptoms are observed in patients with primary tracheal tumors. After the onset of the symptoms, it may take up to one year to establish a diagnosis; this time may be shorter in bronchogenic carcinomas when compared to adenoid cystic carcinoma or benign neoplasms. Tracheal tumors should be suspected in those who are diagnosed with asthma at an adult age and who begin to make sounds during breathing and exhalation. Even though hemoptysis is generally seen in lung cancers, it can also be encountered in tracheal adenoid cystic carcinomas and other tracheal neoplasms. Also, hoarseness as well as dysphagia resulting from compression can be seen.

Dyspnea and difficulty in breathing after exercise are the most common symptoms. 2/3 of the tracheal opening need to be obliterated due to the tumor so that symptoms can be seen even at rest [6].

The change in voice quality in patients indicates that especially upper tracheal tumors invade or compress the recurrent nerve. Dysphagia can also be observed in bulky tumors owing to esophageal compression.

DIAGNOSTIC EVALUATIONS:

After the anamnesis and physical examination, radiological examinations come first among the diagnostic procedures if the patient does not have asphyxia. Posteroanterior chest radiography is requested as the first examination. In the x-ray, mediastinal expansion, narrowing of the trachea, post-obstructive atelectasis, pneumonia or metastatic disease findings can be seen. However, tracheal tumors can be missed out as they are rare

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Endoscopic treatments can also be applied for palliation in inoperable patients without a surgical chance, and afterwards, palliation can be provided with stents placed in the trachea [32].

However, resection and end-to-end anastomosis should be carried out in the cases with a possibility of recurrence, even if the tumor is benign.

Radiotherapy

When primary tracheal malignant tumors do not comply with surgical criteria, they can be treated with radiotherapy, though its long-term results are not as in primary surgical resection. The dose of radiotherapy given ranges between 5000-6000cGy. In a study conducted by Fields et al., they discovered that the response depended on the RT dose when the patients only received radiotherapy as the treatment method. A radiation dose of 6000cGy and above was found to be statistically significant for complete response [33]. However, radiotherapy is not superior to surgery. Generally, primary tumors cannot be brought under control with radiotherapy. With radiotherapy, patients with adenoid cystic carcinoma have a higher survival when compared to patients with squamous cell carcinoma.

Esophagitis, dysphagia, esophageal stricture, tracheoesophageal fistula, necrotizing tracheitis and innominate artery rupture have been reported as the complications of radiotherapy in various studies [32].

SECONDARY MALIGNANT TUMORS

Secondary tumors of the upper airways generally result from the neoplasms of the surrounding tissues. These include the lungs, thyroid, larynx, and esophagus. Moreover, distant metastases can also occur hematogenously [34].

Primarily, the underlying disease is desired to be brought under control in the treatment; however, surgical or palliative methods are used in some cases to ensure the continuity of the airway function. Among palliative methods, cauterization, opening of the passage with a rigid bronchoscope or eluting stents are adopted [8].

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