Original Article

Treatment of Laryngeal Carcinoma

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Summary:

Background: *Advanced squamous cell carcinoma of the larynx is a devastating malignancy and, survival rate depends on tumor site. Furthermore combined treatments of radical surgery and irradiation therapy are associated with profound functional morbidity affecting speech, swallowing ,disfigurements, and overall quality of life.*
Objective: *total laryngectomy for such patients hoped to increase the likelihood of cure.*
Subject & methods: *124 patients with laryngeal carcinoma were involved in this study, and were treated with primary surgery with or without adjuvant DXT. All the patients' data were put into questionnaire and statistically analyzed.*
Results: *recurrent carcinoma at the tracheal stoma is a dreaded complication in the treatment of laryngeal carcinoma, in addition to lung metastasis (3.2%).*
Conclution: *Surgical treatment is advised with maximal preservation of the surrounding laryngeal tissue. Radiotherapy is not recommended because it may cause it has an impact on subsequent stoma recurrence*

Introduction:

Laryngeal carcinoma accounts for 62.6% of ENT malignancies, and the most widely accepted treatment for those patients remains total laryngectomy. Irradiation therapy is either used as an adjunct to surgery, or as the only treatment.

Advanced squamous cell carcinoma of the larynx is a devastating malignancy, and the survival rate depends on the tumor site. Furthermore combined treatments of radical surgery and irradiation therapy are associated with profound functional morbidity affecting speech, swallowing, disfigurement, and overall quality of life. Most patients seek treatment at an advanced (stage III and IV[7]) of the disease and the poor cure rate and morbidity of the treatment prompted the use of chemotherapy.

Materials and Methods:

124 patients with laryngeal carcinoma were included in this study. They were treated at the Department of ENT at the Sp. Surgical Hospital of the Medical City in Baghdad during the period 1994-1998, They were treated with primary surgery, with or without adjunct DXT.
All patients' data were put into questionnaires and statistically analyzed.

Results :

The youngest patient was 13 years old, and there were 6 patients (4.6%) less than 30 years old (table 3). In 48 (38.7%) patients the tumor was transglottic, in 33 (26.6%) in the supraglottis, and in 17 (13.7%) the tumor was localized to the glottis. There were 2 patients (1.6%) with primary tumor localized in the subglottis.

A regional Nitumour was seen in 5 patients (4%). There were 2 patients (1.6%) with distant metastases (Table 2).

In all patients, planocellular laryngeal carcinoma was suspected. In those patients where biopsy and pathohistological examination were performed, the grade of tumor malignancy was determined. In most patients differentiation was in suspected, and in a fewer number moderate differentiation (G2) of the tumor cells was found.
There were also few patients with poor differentiation of the tumor cells (G3).

In the planning of surgical treatment, tumor localization, local and regional tumor extent, histological malignancy, as well as the general health of patients were taken into account. Total laryngectomy was performed in 93 patients (75%).

Combined therapy-surgery with planned post-operative irradiation was carried out in 31 patients (25%). Indication for post-operative irradiation therapy included intra-operatively taken marginal extension positive for malignancy, local and regional tumor extention, and histological tumor malignancy.
Ten patients (8.1%) had recurrence..

The 124 patients who had carcinoma of the larynx comprised (62.6%) of all head & neck tumors treated in our department over the study period. Ninety four of them were males (75.8%) and 30 were females (24.2%), with a mean age of 45 years. Seventy five percent were smokers. Sixty patients (48.3%) were traders (Table 3). The majority of patients were from Baghdad (65, 52.5%) (Table 4) The main presenting symptom was stridor (84 patient, 67.8%) for whom emergency tracheostomy was done (Table 5).

Tumor distribution according to age

Table -1-

11-20	1	0.8%
21-30	4	3.2%
31-40	12	9.7%
41-50	18	14.5%
51-60	37	29.9%
61-70	27	21.8%
71-80	20	16.1%
81-90	4	3.2%

Table -2-
Tumor Distribution

Transglottic	48	38.7 %
Supraglottic	33	26.6 %
Glottic	17	13.7 %
Epiglottic	10	8.1 %
Neck mass	5	4%
Pericho.	4	3.2%
V.C Fix	3	2.4 %
Polyp.	3	2.4%
Oedma	2	1.6 %
Fistula	2	1.6%
Subglottic	2	1.6%
Metastases	2	1.6%
Base of toung	2	1.6%
Cord ulcer	1	0.8%
Ventricular mass	1	0.8%
Nodule	1	0.8%
Bleeding	1	0.8%

Tumour Distribution

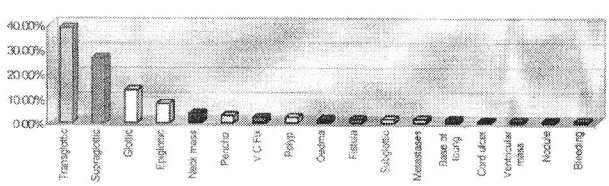
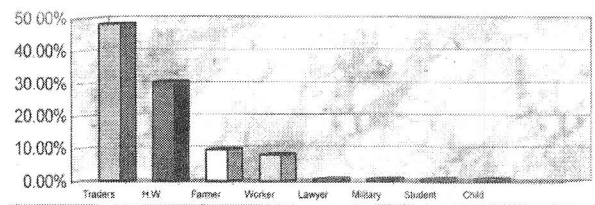


Table -3-
Occupation

Traders	60	48.3%
H.W.	38	30.7%
Farmer	12	9.7%
Worker	10	8.1%
Lawyer	1	0.8%
Military	1	0.8%
Student	1	0.8%
Child	1	0.8%

Occupation



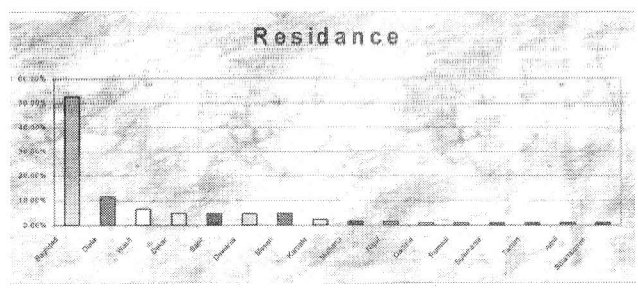
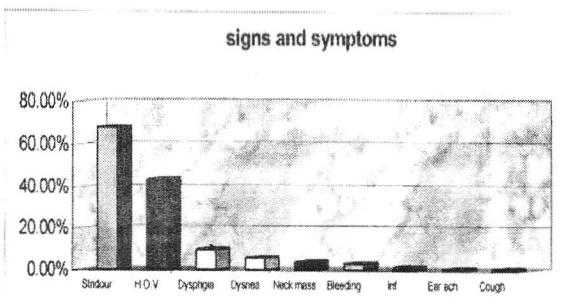


Table-4-
Residence

Baghdad	65	52.5%
Diala	14	11.3%
Wasit	8	6.5%
Dekar	6	4.9%
Babil	6	4.8%
Dewania	6	4.8%
Mesan	6	4.8%
Karbala	3	2.4%
Muthana	2	1.6%
Najaf	2	1.6%
Qadisia	1	0.8%
Rumadi	1	0.8%
Sulemania	1	0.8%
Tamim	1	0.8%
Arbil	1	0.8%
Salahaldeen	1	0.8%

Table-5-
signs and symptoms

Strider	84	67.8%
H.O.V	54	43.5%
Dysphgia	12	9.7%
Dysnea	7	5.7%
Neck mass	5	4%
Bleeding	4	3.2%
Inf.	2	1.6%
Ear ach	1	0.8%
Cough	1	0.8%



Discussion:

In general, individuals with a malignant neoplasm have been reported to have a relatively increased risk of developing a second primary cancer; 1.29 times higher than that of the population with no history of malignancy (stein et aL, 1991). A higher relative risk can be due to carcinogenic effects of tumor treatment like ionizing radiation which is a weak carcinogen compared to carcinogenic substances such as some cytotoxic drugs (Coleman 1982). In the head and neck region the detection of irradiation-induced cancers is difficult because of the risk of multiple primary tumors in certain groups of patients (l)onohue et aL, 1967, Gane et el., 1970,Coia et al. 1980, Stccves and Bataini 1981, Eisen bud et al., 1982, Rennie ctal 1983, Spiegel and Bogdasarian 1985, Narula etal 1986, Griem etal 1989, Maisel etal 1989, Glaubiger etal 1991, Liddington ctal 1992) and squamous cell carcinoma (schindcl and Castoriano 1972, Kumar and New land 1980, Strauss and Hershy 1983, Weshlcr ct al 1983, Amendola et al 1985, Maisel and Case 1992) Radiation-induced salivary gland tumors and thyroid carcinomas arc more common and have been reviewed by others, (Fleminget et al. 1985, Watkin and Hobsley 1986, Robirison and Neugut 1990). In addition we found carcinoma of the base of the tongue in 6 (19.4%) patients.

Reports of laryngeal Carcinoma in persons younger than 40 are relatively rare, and in children up to 15 years are extremely rare (Vcr Maluen, 1966 Pandcy an Chouhury 1968, Zehender and Layons 1975, Seth et al 1978, Ossoff et al 1980, Singh and Kaur 1987, Ohlms et al 1994, Simon ct al 1994).

Hcrold and Backmuhl 1966 reported that in East Germany, the incidence of laryngeal carcinoma in patients younger than 20 was 0.5%.

Gindhart et al. 1980 reported that since 1868 (54) cases of laryngeal carcinomas in children have been published. In this study, there are 18 patients (14.5%) below the age of 40 years, which is high for a five years interval.

Laryngeal carcinomas in the third and forth decade of life arc more common (Z. Petrovic 1996), and in our series was commoner in fifth & sixth decade.

Corniol and Fried (1982, ZJ'etrovic 1996) reported no patients below 20 years of age suffering from laryngeal carcinoma.

Conclusion:

In treatment of laryngeal carcinoma in children surgical treatment is advised with maximal preservation of the surrounding laryngeal tissue. Irradiation therapy is not recommended because it may cause problems in physical development, growth arrest and may induce subsequent malignancy development.

In planning the proper therapy, of crucial importance is the local and regional tumor extent, tumor localization, grading of tumor malignancy, and general health condition of patients. The therapeutic results in the studied group of younger patients did not significantly deviate from the therapeutic results for the whole patient group suffering from laryngeal carcinoma.

The treatment modality has an impact on subsequent stomal recurrence. Patients treated with high dose irradiotherapy followed by salvage laryngeactomy have stomal recurrence more often than patient treated by primary laryngeactomy.

Possible risk factors for an ultimate stomal recurrence such as T stage, N stage, Subglottic involvement, and preoperativc tracheotomy are valid only in patients treated by primary laryngeactomy with planned postoperative radiation. Thus a statistical significance of these risk factors could not be observed.

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