Challenges in the Management of Laryngeal Cancer in Ile-Ife: Any Emerging Pattern?

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Abstract: *Background*: We undertook this study to detect emerging pattern in the challenges in managing patients with laryngeal cancer in our setting.

Methodology: We review the 16 patients with histologically confirmed laryngeal carcinoma managed at the Otorhinolaryngology Head and Neck surgery Department of Obafemi Awolowo University Teaching Hospitals complex between 1st January 2008 and 31st December 2013.

Result: There were 11 males and 5 females with mean age of 58.0 years. Three (18.8%) patients who were all males had history of smoking. History of significant alcohol intake was found in 4 (25.0 %) males and 1 (6.3%) female. Fifteen (93.8%) patients presented as an emergency with airway obstruction necessitating emergency tracheostomy. Eight (50.0%)patients had total laryngectomy as primary treatment modality and 1 (6.25%) patient had radical radiotherapy as her primary treatment modality. Six (37.5%) patients refused further treatments after their initial emergency Tracheostomy, Laryngoscopy and Biopsy and were subsequently lost to follow up.

One (6.35%) patient died before commencement of definitive treatment.

Among the laryngectomy group, 2 (12.5%) died on admission, 2 (12.5%) was lost to follow up and1 (6.25%) had stoma recurrence; Three (18.75%) patients are alive. All the patients with loco-regional failure had it within 18 months with only 1 (6.25%) survival at 2 years.

Conclusion: Late presentation and treatment refusal remain the major challenges in this study. There is thus an urgent need for health education to promote early presentation.

Keywords: Laryngectomy, cancers, Radiotherapy, Laryngeal conservation, late presentation.

INTRODUCTION

Cancer of the larynx is the second most common malignancy of the upper aero digestive tract, and over 11,000 cases are reported annually in the United States alone. Majority of the laryngeal cancers (85% to 95%) are squamous cell carcinoma (SCC) that arises from the epithelial lining of the larynx [1].

Males are mostly affected but the proportion of female affected is increasing in recent studies. The reason adduced for this is that women are obtaining an equal place in the toxic work environment and are participating in risky lifestyles and habits with were mainly in the domain of the male gender [1].

Earlier published works from Nigeria has shown Total laryngectomy with post-operative chemotherapy to be superior to either surgery or radiotherapy alone [2]. This is said to be largely due to late presentation and aggressive course of the disease in this locality [3]. We are however mindful of the study that showed long-term overall quality of life remains similar in all the patients treated for advanced carcinoma of the larynx irrespective of treatment modality [4].

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In our center, earlier works has shown that late presentation necessitating emergency tracheostomy to be common [5]. We therefore carried out a 6 years retrospective review of all histologically confirmed cases of laryngeal carcinoma to determine the presentation, management and outcome of treatment in our environment Since Billroth performed the first Total Laryngectomy over a hundred year ago, total laryngectomy has remained the gold standard in the treatment of laryngeal carcinoma. Total Laryngectomy however leaves patients with a permanent stoma and the need for alaryngeal speech. These sequelae have stimulated several innovations aimed at laryngeal conservation without compromising cure.

In Nigeria, Laryngeal carcinoma presents in a relatively younger age groups and in an advanced stage. Consequently, patients are often offered total laryngectomy as a primary treatment modality [2, 5].

METHODOLOGY

The clinical records of patients managed in the ORL-HNS department of Obafemi Awolowo Teaching Hospitals Complex, Ile-Ife for Laryngeal Cancer between 1st January 2008 and 31st December. Patients selected were those who had both clinical diagnosis and histological confirmation of laryngeal cancer.

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The study parameters were age, sex, presentation, tobacco and alcohol usage, clinical presentation, treatment and outcomes. Results were analyzed using SPSS 17 (Chicago, Inc.)

RESULTS

There were 16 cases of histologically confirmed laryngeal carcinoma during the period. All the patients had Squamous cell carcinoma. There were 11 males. Mean age was 58 (47 – 72) years. Table **1** summarizes the findings.

Table 1: Summary of the Main Findings

	Male	Female	
Tobacco Smoking	3	0	p= 0.509
Alcohol Consumption	4	1	p= 0.484
Symptoms at presentation			N=16 (%)
Airway obstruction			15(93.75%)
Hoarseness			16(100%)
Dysphagia			3(18.75%)
Ear ache			6(37.5%)
Weight Loss			2(12.2%)
Findings at Direct Laryngoscopy			N=16(%)
Solitary vocal cord lesion			1(6.25%)
Extensive lesion beyond vocal cord			1(6.25%)
Transglottic Lesion			14(87.5%)
Primary treatment Modality			N=16(%)
Defaulted[a]			6(37.5%)
Total Laryngectomy			8(50%)
Radical Radiotherapy			1(6.25%)
Died before definitive treatment			1(6.25%)

[a]did not have further treatment following the emergency tracheostomy to relieve the upper airway obstruction.

Adjuvant Treatment

All the patients who had total laryngectomy were planned for post-operative radiotherapy. However only 3 patients had post-operative radiotherapy. Two patients died on admission, while one patient refused post-operative radiotherapy, two patients were lost for follow up after their total laryngectomy.

Outcome

All the patient who had total laryngectomy and post-operative radiotherapy are alive although 1 of them had neck failure that was managed with a course of Taxane based chemotherapy with complete remission. The present state of all the defaulted cases cannot be ascertained. The patient that refused post-operative Radiotherapy had stoma recurrence and died. The single patient who had radical radiotherapy is alive and well and is disease free at 2 years. Minimum duration of follow up was 2 years.

DISCUSSIONS

We found that late presentation still remains a problem in our environment. All but one patient ignored the advice following initial presentation with hoarseness until airway obstruction necessitated the need for emergency tracheostomy. These observations have been made earlier in this environment [5-8].

The male to female ratio in this series differs in relatively higher proportion of females from what was earlier reported from this same center by Amusa and coworkers [5]. This may reflect a gradual change in the epidemiology of this disease or a change in environmental risk factors. It is possible that females are adopting the risky lifestyle and habits or they are getting more exposed to same risk factors that predispose the males to this disease. Iseh and coworkers noticed an increased risk of laryngeal carcinoma in female married to smokers suggesting passive tobacco exposure as a risk factor [2]. However, we do not have records of passive smoking in the records of our patients. Our series did not also show significant difference in smoking and alcohol consumption between male and female.

Alcohol and Tobacco usage have been established as the primary risk factor for Laryngeal carcinoma in other environment [9-12]. Most local studies have not shown similar trend [3]. In this study, less than a quarter of the patients have a history suggestive of exposure to these established risk factors.

There is an unacceptably high dropout rate after diagnosis. The reason for this was not explored in this study. However similar study by Mvuoni and coworkers adduce to the challenge of cost of treatment [13]. In our setting where patients pay out of pocket for healthcare, this is also a possibility. However, considering the fact that most of these patient reported after suffering a life threatening upper airway obstruction, the cause of high dropout may not be financial only. There may be the need for more rigorous education to make the patient appreciate that the disease has far better outcome if treated at the early stages.

The advanced nature of the disease at presentation makes laryngeal conservation without compromising tumor extirpation impossible in our series. Consequently, total laryngectomy with post-operative radiotherapy with or without chemotherapy is our preferred mode of treatment. This has been the trend in earlier local series [6, 14]. Reports from centers in our environment using radiotherapy with or without chemotherapy as primary treatment modalities has been disappointing [3, 15]. In a study done by Megwalu and Sikora in the United States using multicenter cancer database, it was also shown that there is better survival when patient had surgery with adjuvant chemoradiation [16].

We noted that the fact that there is a gradual increase in the number of centers offering radiotherapy services, there is still poor access to radiotherapy due to ever increasing patient population. As a result of these, 2 of our patients defaulted from postoperative radiotherapy. The consequence of this is high stoma recurrence rate similar to the experience of Iseh and co-workers [2]. This underscores the need for more radiotherapy centers to be established to improve access. Post-operative radiotherapy appears to be associated with an improved survival with all the patients who had post-operative radiation are alive at 2 years. Similar work seem to corroborate this assertion [16].

It is instructive to note that the single patient who had and early disease and had primary radiotherapy is disease free 2 years post treatment.

The postoperative mortality rate is unacceptably high in our series; the cause of death was hyperosmolar state in one patient with diabetes and electrolyte derangement in another. These mortalities have resulted in a policy of strengthened multidisciplinary management of our patient. We now have a very low threshold for inviting other medical and surgical specialties to participate in the management of our patient.

CONCLUSION

We conclude that Laryngeal carcinomas continue to present late in our environment limiting the chance of undertaking successful laryngeal conservation. There is also an unacceptably high default rate after diagnosis of Laryngeal carcinoma. In spite of the challenges, we still recommend Total Laryngectomy with post-operative Radiotherapy as a safe option in the treatment of laryngeal carcinoma in our environment. It is safe to say that no new pattern has emerged and there may be need for more education to make our patients present early for treatment and commit to further treatment afterwards and not when the disease has advanced to a stage of having airway obstruction.

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