PRIMARY SMALL CELL CARCINOMA OF THE LARYNX: A CASE REPORT

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Introduction

- Primary small cell laryngeal carcinoma is a very rare malignancy with only a few hundred cases reported in the literature[1].
- Patients typically complain of dysphonia and an associated neck mass. Diagnosis is typically made via biopsy and histopathologic evaluation.
- This malignancy has a poorer prognosis than most other head and neck cancers, emphasizing the need for close follow up and continued research into potential therapeutic options[2].

Case Report

- A 45-year-old male with past medical history of asthma, hypertension, and hyperlipidemia presented to an outside ENT clinic with hoarseness, a submucosal mass (Figure 1), and biopsy proven primary small cell carcinoma of the larynx; staged as cT3N2bM0.
- He underwent concomitant chemoradiation with cisplatin and 35 fractions of radiation therapy with complete response. He was only able to complete 2 out of 3 cycles of cisplastin due to renal toxicity. In the adjuvant setting, he then started carboplatin and etoposide and completed 4 cycles. Surveillance CT scans showed complete response to therapy.
- Unfortunately, he experienced local recurrence, which was subsequently treated with combination chemotherapy and immunotherapy via carboplatin, etoposide, and atezolizumab. The patient again experienced complete response and has been maintained on atezolizumab to date.

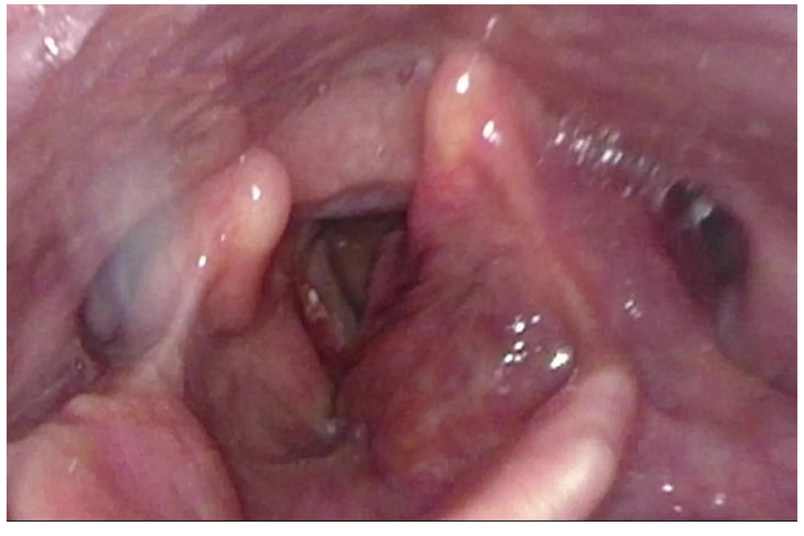

Figure 1. Flexible laryngoscopy. Pictured is a submucosal mass of the left aryepiglottic fold and false fold, which extends inferiorly with obliteration of the ventricle.

Discussion

- Some authors recommend treating head and neck small cell cancer with induction chemotherapy followed by radiation therapy to avoid toxic side effects from concomitant treatment[3]. There were also reports of high response rates with induction chemotherapy alone[4].
- In contrast, our patient received concomitant chemoradiation and adjuvant chemotherapy with initial complete response and minimal toxicity, but experienced recurrence despite a more aggressive approach.

Conclusion

- Based on our patient, reconsideration is needed regarding treatment for small cell carcinoma of the larynx. While there is a lack of consensus, most treatment regimens consist of induction chemotherapy followed by radiation.
- The authors offer an alternative consisting of concomitant chemoradiation, as well as immunotherapy to maintain complete response. With the emergence of immunotherapy as a viable option for many diseases, further studies are needed to investigate its role in small cell carcinoma of the larynx.

References

1. Ferlito A, Friedmann I. Review of neuroendocrine carcinomas of the larynx. Ann Otol Rhinol Laryngol. 1989 Oct;98(10):780-90. doi: 10.1177/000348948909801006.
2. Ferlito, A. and Rinaldo, A. (2008), Primary and secondary small cell neuroendocrine carcinoma of the larynx: A review. Head Neck, 30: 518-524. https://doi.org/10.1002/hed.20797
3. Barker, J.L., Jr., Glisson, B.S., Garden, A.S., El-Naggar, A.K., Morrison, W.H., Ang, K.K., Chao, K.S.C., Clayman, G. and Rosenthal, D.I. (2003), Management of nonsinonasal neuroendocrine carcinomas of the head and neck. Cancer, 98: 2322-2328.
4. Yin J, Wang X, Fu Z, Liu Y, Chen W, Zhu L. [Small cell neuroendocrine carcinoma of larynx: a case report]. Lin Chung Er Bi Yan Hou Tou Jing Wai Ke Za Zhi. 2020 Jul;34(7):655-657. Chinese. doi: 10.13201/j.issn.2096-7993.2020.07.019.