Laryngeal Melanosis: A Case Series and Review of the Literature

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ABSTRACT

Objectives: Laryngeal melanosis (LM) is a rare condition characterized by benign pigmented lesions of the laryngeal mucosa. Currently, there is a scarcity of case reports and little is known about its clinical significance. The objective of this study is to investigate if there is an association between LM and concomitant squamous cell carcinoma (SCC).

Methods: Demographics, history, examination findings, and histopathology were reviewed from all patients who presented to our institution between 1995 and 2010. Medline and Ovid searches were then performed to identify all previous case reports of LM available in the literature to date.

Results: Eleven patients, all African American and chronic tobacco users, were identified with LM. The most common presenting symptom was throat pain, and examination most often revealed flat, hyperpigmented lesions of the supraglottis. Six patients (50%) had concomitant SCC at adjacent sites. One patient also had CIS (10%) of the true vocal cord. This study was found to represent the single largest case series of laryngeal melanosis to date. Based on the limited number of cases reported previously (17 total), a coexistent SCC rate of 50% was noted which is consistent with that in our study.

Conclusions: Based on our series and review of the literature, laryngeal melanosis is a rare disorder that is associated with chronic tobacco use. Most notably, clinicians should be aware of the possible association between LM and concomitant SCC.

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INTRODUCTION

Laryngeal melanosis (LM) is characterized by darkly pigmented lesions of the laryngeal mucosa. There are scarce reports in the literature on LM and little is known about its clinical significance. Histologically, melanosis is characterized by pigmentation of the basal keratinocytes with a normal or slightly increased number of melanocytes. Ectopic melanocytes have been described in normal and/or metamorphic squamous epithelium of various mucous membranes in the head and neck including the esophagus, larynx, nasal mucosa and oral cavity[1]. The presence of these cells in ectopic sites is postulated to occur by the migration of melanoblasts with mesoderm and subsequent maturation within connective tissue to melanocyte[2]. Alternative hypotheses include transformation of epithelial cells to melanoblasts[3] or pigment-containing cells, or transformation of neural tissue into melanin-producing cells[4]. Importantly, the possibility of differentiation of metamorphic squamous cells into melanocytes has also been previously suggested[4].

METHODS AND MATERIALS

Institutional review board approval was obtained from Indiana University School of Medicine. Patients who presented to the Wishard Hospital Otolaryngology Clinic at Indiana University School of Medicine between 1995-2010 with histopathology demonstrating LM were identified. History, examination, direct laryngoscopy findings, and concomitant pathology were documented. The literature was reviewed using two search engines, Medline and Ovid.

RESULTS

Characteristics of eleven patients identified at our institution are summarized in Table I. Patients included three females and eight males, with ages ranging from 43-69 years old. Of the patients without concomitant malignancy (SCC), presenting symptoms were dysphonia (n=5) or globus (n=1). One patient was asymptomatic. The six patients with concomitant SCC of the oropharynx/larynx presented with dysphagia and throat pain, likely related to the SCC (Figure 1). On direct laryngoscopy, all patients demonstrated lesions characterized by brown mucosal discoloration. One patient demonstrated LM with squamous dysplasia and inflammation on histopathology (Figure 2A). Another demonstrated LM with polyoid degeneration. The remaining lesions (n=5) were all flat (macular) mucosal patches, and demonstrated LM based on pigmentation of basal keratinocytes and a normal or elevated number of melanocytes (Figure 2B).

DISCUSSION

Data derived from eleven patients reported in this series are consistent with the seventeen cases in the existing literature in regard to age, smoking history, and male predominance. Interestingly, six of our eleven patients (50%) had a coexisting squamous cell carcinoma (SCC) of the head and neck. Moreover, CIS was identified in one patient. Of the patients that presented with SCC and LM, both conditions were discovered concurrently. While all of the patients in our series were African-American, race was only mentioned for two other patients in the literature which were Caucasian. Thus, epidemiologic information related to race cannot be determined, as it is possible that the urban nature of our medical center biases our patient population.

CONCLUSIONS

Laryngeal melanosis is a rare condition that is characterized by benign pigmented lesions. There has been little reported on the condition and this study was found to represent the single largest case series of laryngeal melanosis to date. Previous literature reported a coexistent SCC rate of 30% which is consistent with our study. Clinicians should be aware of the possible association between LM and concomitant SCC.