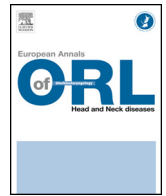




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Original article

## Laryngeal papillomatosis in Senegal: A ten-year experience



S. Maïga<sup>a,\*</sup>, C. Ndiaye<sup>a</sup>, M. Diouf<sup>a</sup>, B.K. Diallo<sup>b</sup>, M. Ndiaye<sup>c</sup>, M.S. Diouf<sup>d</sup>, I.C. Ndiaye<sup>a</sup>, R. Diouf<sup>d</sup>

<sup>a</sup> Clinique ORL Lamine-Sine-Diop CHNU de Fann, Cheikh Anta Diop avenue, Dakar, Senegal

<sup>b</sup> Service d'ORL de l'hôpital pour enfants de Albert-Royer, Dakar, Senegal

<sup>c</sup> Service d'ORL de l'hôpital pour enfants de Diamniadio, Dakar, Senegal

<sup>d</sup> Service d'ORL et de chirurgie cervico-faciale de hôpital général de Grand-Yoff, Dakar, Senegal

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### ABSTRACT

**Objectives:** The objectives of this study were to describe the epidemiological, clinical and therapeutic characteristics of laryngeal papillomatosis in the Fann teaching hospital ENT department in Dakar, Senegal.

**Patients and methods:** We retrospectively reviewed all cases of laryngeal papillomatosis managed in the Fann teaching hospital ENT department between 1st January 2006 and 31st December 2015. Epidemiological, clinical and therapeutic characteristics of laryngeal papillomatosis were studied. Statistical analysis was performed with SPSS 18 software.

**Results:** The median age at diagnosis was 11 years and the sex ratio was 1.88. The mean time to consultation was 4.5 years. The predominant symptom was dysphonia, present in all cases, followed by laryngeal dyspnoea in 64.6% of cases. The glottic area was involved in all patients. Tracheostomy was performed in 20.8% of cases. All patients in our study underwent endoscopic excision of the lesions.

**Conclusion:** Laryngeal papillomatosis is the most common benign tumor in children, but it can also occur in adults. Treatment has been revolutionized by progress in endoscopy and antiviral therapy. However, tracheostomy still occupies an important place in our practice.

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## 1. Introduction

Laryngeal papillomatosis is a benign, papillary, squamous cell tumor caused by human papillomavirus (HPV) types 6 and 11, characterized by multiple laryngeal papillomas. It can also involve all of the respiratory tract and upper gastrointestinal tract [1–4].

This disease affects both children and adults. It can be life-threatening as a result of airway obstruction and the risk of malignant transformation [1–5].

While the clinical and histological features have been clearly described, the pathogenesis of this disease has not been fully elucidated although the viral aetiology has been formally demonstrated. Management of this disease is particularly difficult due to its unpredictable course and its tendency to recur.

The objective of this study was to describe the epidemiological, clinical and therapeutic characteristics of laryngeal papillomatosis

observed in the ENT and head and neck surgery departments of FANN teaching hospital in Dakar, Senegal.

## 2. Patients and methods

This retrospective study was conducted on all patients hospitalised for the management of laryngeal papillomatosis in the Lamine Sine Diop ENT clinic of FANN teaching hospital from 1st January 2006 to 31st December 2015. All patients with incomplete medical records and patients managed in the department before 1st January 2006 were excluded.

The following parameters were studied:

- age;
- sex;
- duration of symptoms;
- symptoms;
- clinical and endoscopic findings;
- therapeutic management;
- histological findings;
- postoperative course;

\* Corresponding author.

E-mail address: [souleymanem9@gmail.com](mailto:souleymanem9@gmail.com) (S. Maïga).

- recurrences and management of recurrences.

Statistical analysis was performed with SPSS 18 (Statistical Package for the Social Sciences v18) software.

### 3. Results

#### 3.1. Epidemiology

Forty-eight cases of laryngeal papillomatosis were observed over a 10-year period, i.e. 4.8 cases/year, comprising 32 males and 17 females (sex ratio: 1.88) with a mean age of 19.88 years (median age: 11 years and range: 4 to 72 years) (Fig. 1). Three (6.25%) cases of laryngeal papillomatosis were observed during pregnancy.

#### 3.2. Diagnosis

The mean interval between onset of the first symptoms and the first consultation was 4.5 years (range: one month to 26 years).

Dysphonia was present at the time of diagnosis in 95.8% of cases and laryngeal dyspnoea was present in 64.6% of cases. The various symptoms observed are represented in Table 1.

Laryngeal examination demonstrated the papillomas, in the form of clusters of greyish pink raspberry-like lesions (Fig. 2), and allowed assessment of vocal cord mobility, which was preserved in every case.

The glottis was involved in all patients at the time of the first endoscopy. Subglottic and supraglottic involvement was observed in 17 cases (35.40%), while exclusively glottic involvement was present in 14 cases. Seven patients presented subglottic, glottic and supraglottic involvement at the first endoscopic examination.

#### 3.3. Treatment

Emergency tracheostomy was performed in 10 patients in this series, i.e. 20.8% of cases. Tracheostomy was performed prior to endoscopy in 9 cases. Only one patient was tracheostomised

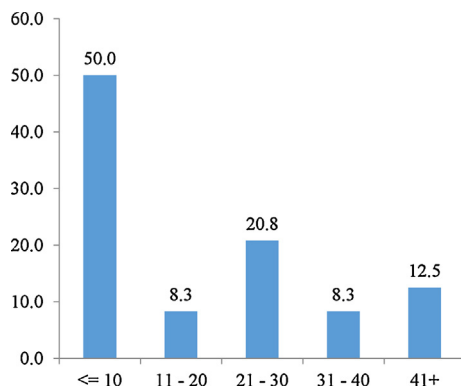


Fig. 1. Age distribution of the patients.

Table 1  
Distribution of symptoms.

Symptoms	Number	Percentage (%)
Isolated dysphonia	16	33.34
Dysphonia and laryngeal dyspnoea	28	58.34
Isolated laryngeal dyspnoea	1	2.08
Laryngeal dyspnoea and cough	1	2.08
Dysphonia and cough	1	2.08
Dysphonia, laryngeal dyspnoea and cough	1	2.08
Total	48	100

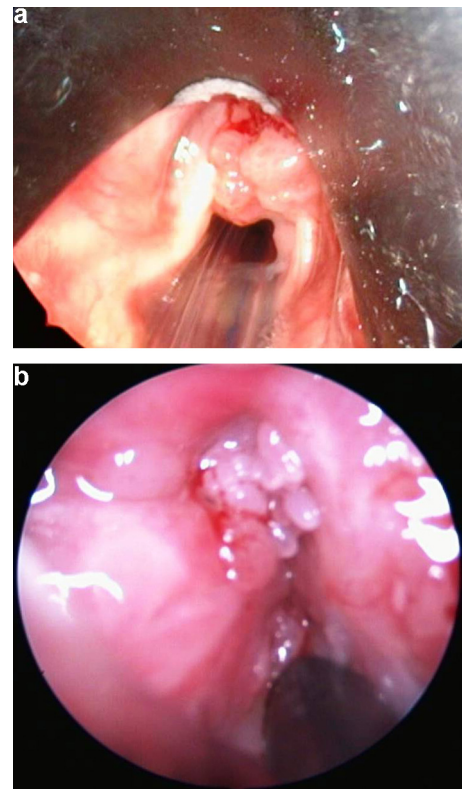


Fig. 2. Clusters of papillomas in the anterior commissure.

following endoscopy. All tracheostomised patients were under the age of 11 years.

Endoscopic forceps excision of the papillomas was performed in all patients of this series with a mean of two endoscopic excision sessions per patient (range: 1 to 7 sessions per patient). Laser vaporization of the papillomas was performed in four patients. No patients were treated by antiviral therapy.

The results of histological examination were available for 25 patients (52.08% of cases). Histological examination revealed squamous epithelium forming exophytic lesions with features of hyperplasia, parakeratosis and hyperacanthosis and no signs of malignant transformation.

The tracheostomy tube was removed in 9 of the 10 tracheostomised patients after an average of 27 days (range: 2 days to 4 months). One patient died in the recovery ward in a context of tracheostomy tube obstruction.

An improvement of voice quality was observed in 20 patients (41.66%), complete remission was observed in 9 patients (18.75%), including 2 patients treated by laser vaporization and 29 patients (60.4%) subsequently presented recurrence. Four of these patients were treated by diode laser vaporization with complete remission in two patients. The remaining 25 patients were treated by further endoscopic forceps excision sessions.

The mean time to recurrence was 10 months. Fifteen patients were lost to follow-up after the first endoscopy.

Three deaths were observed in this series; including two deaths at home in a context of acute respiratory distress, in patients aged 5 years and 53 years, respectively. The third, 5-year-old patient died in the recovery ward due to obstruction of the tracheostomy tube by a mucus plug.

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