



Laryngeal papillomatosis in adults: clinical and therapeutic aspects

S .Ouraini^[a]; I.Benchafai; M.Sahli; A.Rouih; I.Nakkabi; A.Jahidi; F.Benariba.

^[a]Service ORL, Hôpital Militaire d'Instruction Mohamed V, Rabat.

ABSTRACT

Laryngeal papillomatosis, viral infection caused by human papillomavirus (HPV) is responsible for benign lesion that can affect the entire respiratory axis. The problem with this condition is étiopathogénique and therapeutic, it is based on such common techniques as microsurgery, laser or drugs, but their application and their place in the treatment is still controversial. The disease course is variable and unpredictable, marked both by symptoms due to the presence of papillomas and those due to the legacy of successive interventions. The prognosis may be involved in diffuse forms and shapes of the glottal totally obstructive floor, so that the functional prognosis depends on the frequency of peelings during the instrumental microsurgery, because of repeated trauma that can cause a hoarseness. We report about this case of a patient admitted and treated surgically in service for laryngeal papillomatosis, whose evolution was favorable, with remission of symptoms for a decline of 2 years. We discuss this case through clinical monitoring and the various therapeutic modalities.

Keywords : Laryngeal papillomatosis, HPV, dysphonia, treatment.

INTRODUCTION

Laryngeal papillomatosis is defined by a benign tumor proliferation and papillary squamous kind developed in the larynx. [1] Lesions may extend all the larynx or hypopharynx and the tracheobronchial tree, they result from an infection by a human papilloma virus (HPV), essentially subgroup 6 or 11 which are less than the oncogenes subgroups 16/18 and 31/34 [1,2]. The diagnosis was first suspected in a patient with an upper dysphonia three weeks and then strongly evoked in the endoscopic and finally confirmed by a histological study. The risk of this condition is malignant transformation that can give a squamous cell carcinoma of the larynx or lung. [2]

The gravity of this disease is linked to aggressive forms (HPV 11 is more aggressive and is more carcinogenic than HPV 6), justifying the typing of HPV which should be systematic. Some patients may benefit from more than 50 interventions short of their life with sometimes lower than one month intervals. Obstructive risk is always present and tracheotomy is sometimes necessary to justify regular monitoring of patients.

MATERIALS AND METHODS

CLINICAL CASE:

IT is a 50 year old patient, with no notable medical history was hospitalized for the first time there's there for 3 years dysphonia appeared since one month, without concept isolated dyspnea or respiratory noise and refractory to medical treatment symptomatic. The nasofibroscope had identified a budding lesion of the anterior 2/3 vocal cord extended to the anterior commissure macroscopically identical to the adjacent mucosa (Figure 1) and slightly descending the light of the glottal floor.

Direct laryngoscopy under general anesthesia suspension allowed to perform biopsies with instrumental peeling lesions, and histological examination objectified benign tumor proliferation with exophytic expansion of stratified squamous epithelium and keratinizing, covering a fibro-vascular axis (Figure 2), suggesting the diagnosis of laryngeal papillomatosis.



Fig 1: Lesions of two vocal cords

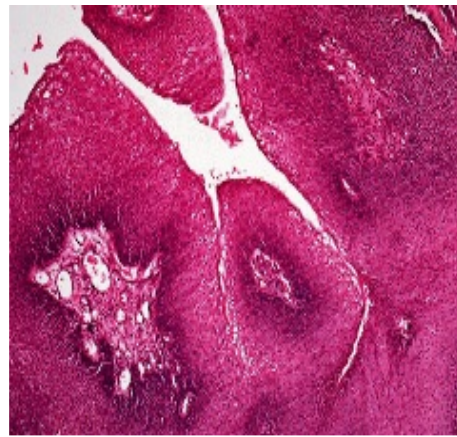


Fig 2: laryngeal papillomatosis

In the postoperative patient has received regular checks by nasal endoscopy which revealed a recurrence at 1 year apart, requiring the recovery of laryngeal microsurgery (3), the histological assessment of biopsies is found no suspicious lesions. The suite was marked by a remission of clinical and endoscopic signs with a decline of 2 years.



Fig 3: Recurrent lesions

RESULTS AND DISCUSSION

Laryngeal papillomatosis is a rare disease is the most common benign tumors of the larynx. Its occurrence has a bimodal distribution in terms of age with a first peak in childhood, around 2-5 years and second in adulthood, around 20- 30 years with a male predominance. This condition can be acquired in adulthood but is not considered contagious: there were no reports of epidemics or familial cases (siblings or spouse) [1,3].

Is a tumor that results from infection by a human papilloma virus (HPV), essentially HPV 6 or HPV 11 [4], which means a very low risk of cancerous transformation. However, there are sporadically laryngeal papillomatosis associated with oncogenic HPV, mostly HPV16, with a highly increased risk of transformation of high-grade dysplasia, in situ carcinoma or invasive squamous cell carcinoma [4,5].

Their elective office is the endolarynx, lesions usually begin on the floor of the ventricles or on the vocal cords, during evolution, the lesions can extend everything larynx, hypopharynx invading and beyond and 'tracheobronchial tree.

The lesions have the aspect of exophytic tumors, sessile or stalked, usually in the form of multiple clusters with irregular grayish appearance cauliflower, white or pink; As and evolve their aspects can evolve made of the presence of fibrosis and scarring laryngeal (instrumental microsurgery), There are sometimes atypia, making it difficult differential diagnosis with carcinoma [5]. These viral infections may be subclinical or latent and reactivate several years later, but the factors determining the appearance of lesions are not clearly identified. Clinical symptoms is almost stereotyped: This is a patient initially presenting dysphonia worsening gradually saw late, the patient presents dyspnea secondary to laryngeal obstruction type of inspiratory bradypnea draw and with wheezing and exceptionally precise prejudice to pulmonary disease [2]. The interval between first symptoms and diagnosis is often long, it can reach several months and requires a laryngeal examination facilitated by nasofibroscope. The radiological assessment (CT, MRI) has little indication. The laryngeal endoscopy under general anesthesia allows for the lesion assessment, showing clumps of papillomas; Their histological study is needed, particularly a malignant transformation is feared and pathological examination is performed routinely after each surgical procedure for the detection and genotyping HPV interest for his prognosis [1,6].

The spontaneous regression of this condition is possible, but impossible to predict. Recurrence can appear after years of remission, even after a macroscopically satisfactory excision; Depending on the frequency of recurrences and extension of lesions, we can distinguish benign forms or recurrences are spaced very aggressive forms very extensive with a rapid recurrence of papillomas endoscopy after each session.

Despite numerous therapeutic proposed to date, treatment of laryngeal papillomatosis is difficult, its management requires a codified strategy and the protocols are as varied as the disease is uncommon in adults.

Two types of treatment are directed to this pathology. Some are designed to prevent or treat symptoms of respiratory obstruction, while providing the laryngeal function and preventing scarring sequelae, others are curative treatments addressing the papillomavirus infection.

The reference treatment is based on surgery endoscopically under general anesthesia with peeling instrument, the CO2 laser vaporization is also a surgical alternative increasingly used, as well as the Microdebrider [1]. Treatments that target HPV infection is trying to reduce viral activity or improve tolerance (immunity) of the patient deal with this virus. The interferon in daily or weekly subcutaneous injections acts on papillomas by its antiviral and antiproliferative action related to its activity on immunity, its use remains to be discussed saw his poorly tolerated side effects. [1] Cidofovir is a nucleotide analogue of cytosine, exhibits anti-viral activity, can also be used by intralesional injection after surgical removal of papillomas or by injection in situ within papillomas

[7]. The indole-3-carbinol, a potent inducer of cytochrome P450, interferes with estrogen metabolism allowing a reduction in the growth of papillomas in their florid forms [1]. The use of HPV 6 and HPV 11 vaccine has been tried as an adjunct treatment of recurrent and aggressive forms and in patients with the use of a two therapeutic adjuvant gave no [8] effects. Other treatments have been proposed and some are even anecdotal because of their sporadic applications, their major adverse effects or their inefficacies. C'est the case of cryotherapy, of corticosteroids, the tetracyclines, the cautery, in Lymphokines, the Lévamizole or Magnesium. Work also emphasize the value of treating a possible gastroesophageal reflux associated with antacids. [9]

CONCLUSION

For several decades, diseases of the upper aerodigestive tract or not associated with infection with human papillomavirus experiencing an avalanche of fundamental, epidemiological, diagnostic, clinical and therapeutic. However, the natural history of HPV infection of the larynx in adults is still poorly understood, it is a benign tumor disease relatively rare but formidable. Its diagnosis is usually easy to chronic dysphonia through nasal endoscopy. Treatment of lesions is only symptomatic, its purpose is primarily to prevent clogging and avoid iatrogenic consequences, since no etiological treatment is available at present. Several therapeutic adjuvant are under development. The capricious evolution of laryngeal papillomatosis requires regular monitoring with histologically seen the risk of malignant transformation in some cases.

Declaration of interest

The authors declare that they have no conflicts of interest related to this article.

REFERENCES

- [1]. O. Maliki, H. Nouri, T. Ziad, Y. Rochdi, L. Aderdour, A. Raji. La papillomatose laryngée de l'enfant : aspects épidémiologiques, thérapeutiques et évolutifs. *Journal de pédiatrie et de puériculture* (2012) 25, 237—241.
- [2]. L. Saumet, A. Damay, E. Jeziorski, C. Cartier, C. Rouleau, G. Margueritte, M. Rodiere, M. Segondy. Papillomatose laryngée sévère évoluant vers un carcinome bronchopulmonaire associé à HPV 11 chez une enfant de 15 ans : a propos d'un cas. *Archives de Pédiatrie* 2011;18:754-757.
- [3]. CS. Derkay. Recurrent respiratory papillomatosis. *Laryngoscopie* 2001; 111(1) 57.6.
- [4]. A. Beby-Defaux, X. Dufour, G. Agius. Infections à papillomavirus humains (HPV) des voies aéro-digestives supérieures (VADS). *Revue francophone des laboratoires* .07-08-2011 - N°434.
- [5]. G. Lescaille, V. Descroix, J. Azerad. Papillomavirus et cancers des VADS. *Rev Stomatol Chir Maxillofac* 2011;112:160-163.
- [6]. F. Denoyelle, P. Froelich, V. Couloigner, R. Nicolas. Rapport de la société Française D'ORL et de CCF. Européenne d'édition 5. Paris. 2011.
- [7]. FI. Broekema, FG. Dijkers. Side-effects of cidofovir in the treatment of recurrent respiratory papillomatosis. *Eur Arch Otorhinolaryngol* 2008; 265(8):871-9.
- [8]. P. Mudry, M. Vavrina, P. Mazanek, M. Machalova, J. Litzman, J. Sterba. Recurrent laryngeal papillomatosis: successful treatment with human papillomavirus vaccination. *Arch Dis Child* 2011; 96(5):476-7.
- [9]. McKenna M, Brodsky L. Extraesophageal acid reflux and recurrent respiratory papilloma in children. *Int J Pediatr Otorhinolaryngol* 2005;69(5):597—605.