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# A rare case of tracheal papilloma mimicking foreign body obstruction

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## ABSTRACT

Tracheal papillomavirus (TP) due to human papillomavirus (HPV) infection is a noncancerous disorder characterized by papillomatous growths in the epithelium of the respiratory tract, including the trachea. A 12-year-old female was hospitalized at our hospital after presenting with a 6-month history of dry cough and intermittent dyspnea when talking and swallowing. The physical examination was routine. Under general anesthesia, this patient got cold therapy and a non-selective type of debridement, and postoperative pathology was revealed within the tracheal villoma.

**Keywords:** Tracheal papilloma, Human Papilloma Virus, postoperative, respiratory epithelium and trachea

## 1. INTRODUCTION

Tracheal papilloma is a benign tumour that is been characterized by papillomatous growth in the respiratory epithelium thus involving the trachea as a result of the human papillomavirus (Gillison et al., 2012). Most commonly involved are HPV 6 and HPV11. TP exists in two forms: juvenile and adult forms. Recurrence is more among the pediatric age group. Clinical presentation of TP is nonspecific and varies from mild symptoms like a cough to dreadful conditions like upper airway blockage (Hermann et al., 2016).

## 2. CLINICAL PRESENTATION

The clinical presentation of tracheal papilloma is usually atypical and nonspecific. It usually involves the pediatric age group and is most likely expected to be the vertical transmission (Harris & Chalhoub, 2011). The specific symptoms, course of the disease, and severity of rrp can vary greatly from one person to another. Only a few cases sort out unaccompanied without medical or surgical intervention, but the majority of cases require medical or surgical intervention (Popper et al., 1995).

## 3. CASE REPORT

A 12-year-old female child with difficulty breathing and severe cough with cyanosis as her chief complaints was admitted to the casualty department, Sree Balaji Medical College and Hospital, Chennai. On room air, the patient had an oxygen saturation of 78 percent; adequate oxygenation was

administered through a nasal cannula to maintain proper oxygenation. The child has had an intermittent dry cough for more than 6 months that is not chronic, and there is no history of blood in sputum, fever, regurgitation, or shortness of breath, according to the comprehensive history. Early detection and treatment were not prioritized. An x-ray of the chest revealed left lung collapse (Figure 1). A pinkish globular mass with a regular surface was discovered at the level of the carina during an emergency fiberoptic bronchoscopy (Figure 2). The patient was admitted to our hospital and given a pre-anesthesia opinion before being taken up for surgical excision of the lesion with a carbon dioxide laser, with the majority of the prominent luminal part of the tumor being resected without transoperative bleeding, removed with biopsy forceps, and sent to the pathology department. The patient was then given post-operative radiography (Figure 3) and a post-operative check bronchoscopy (Figure 4).

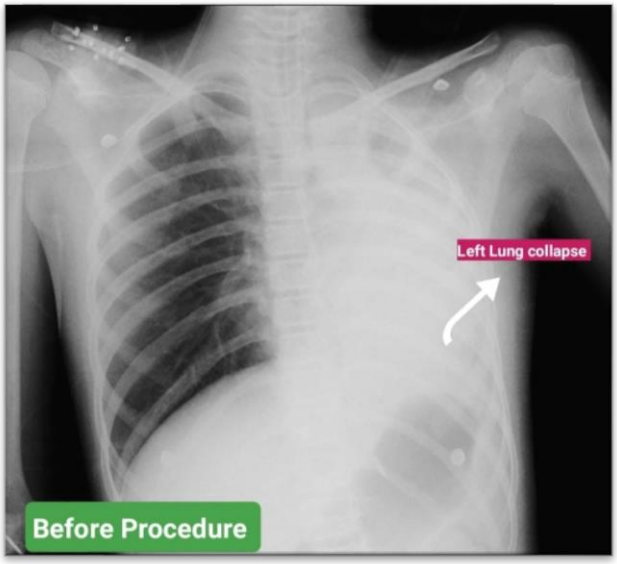


**Figure 1** Pre-op x-ray showing left lung collapse of 12 yr old child

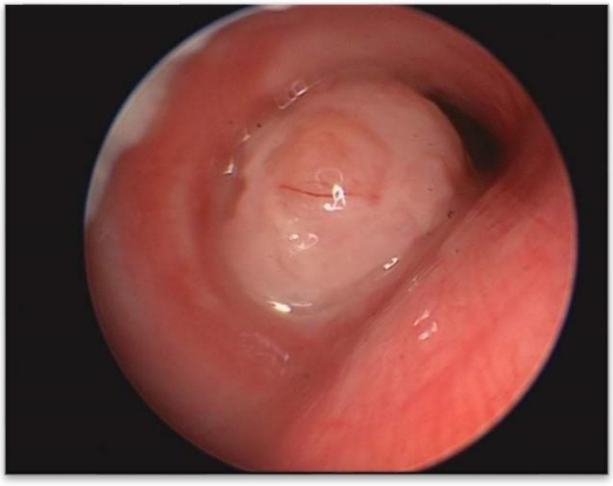

**Figure 2** Preoperative fiberoptic bronchoscopy picture of mucosal growth at the carina

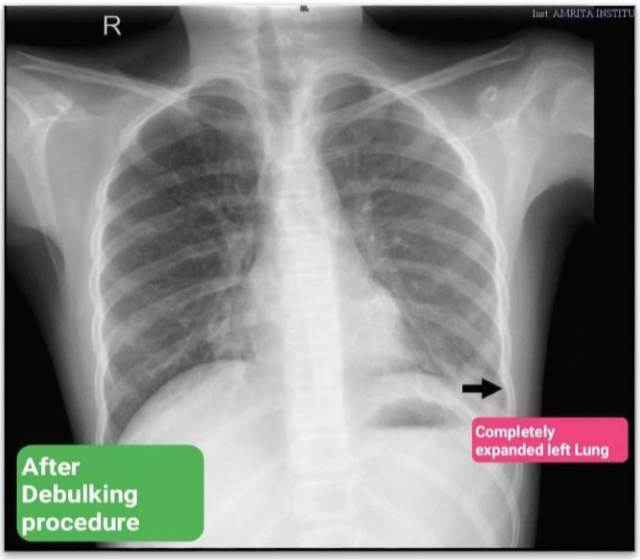


**Figure 3** Post-op chest x-ray

**Figure 4** Postoperative Bronchoscopic picture

## 4. DISCUSSION

Benign squamous papilloma is prevalent in the larynx but very uncommon in the trachea. Tracheal papillomas are tumours that develop from the trachea, bronchial epithelium, and mucous glands. Multiple and solitary are two types of papillomas (Fortes et al., 2017). Among them, multiple papillomaviruses are the most common, are caused by infection with human papillomavirus (HPV), and usually begin in the upper respiratory system before migrating to the lower respiratory tract. Squamous cell papilloma, adenoid cell papilloma, and mixed squamous epithelium and glandular epithelium (mixed type) are the three pathological kinds of papilloma, with squamous cell papilloma being the most frequent. The exact etiology of single mixed-type papilloma is unknown (Elgart et al., 2020). According to research, this condition is linked to smoking and HPV infection. Trvfon et al., (2012) discovered that 78 percent of individuals with the condition had a history of smoking. Inamura et al., (2011) on the other hand, reported that 8 patients were tested for HPV and found to be negative.

Koshiol et al., (2011) tested tissues from these individuals for HPV DNA using Nucleic acid amplification testing. This type-specific test revealed that the samples were free of HPV DNA, which is negative. Similarly, the current instance was HPV negative as well. Most bronchoscopy-guided biopsies of mixed-type papillomas reveal a central-type lesion, which is frequently misinterpreted as lung cancer. According to the literature, the bronchoscopy outcomes of mixed-type papillomas vary; most papillomas have a novel, cauliflower-like shape with concealed development. Some bronchoscopic exams have shown that a portion of the bronchial wall has a small elevation, while others have revealed bronchial stenosis. The patient was effectively treated

with local excision in this case. In this study, an instance of tracheal cancer with isolated and tiny lesions was excised using a high-frequency snare, resulting in successful treatment absence of irregular cellular arrangements with ciliated columnar cells and many goblet cells in the epithelium (Figure 5).

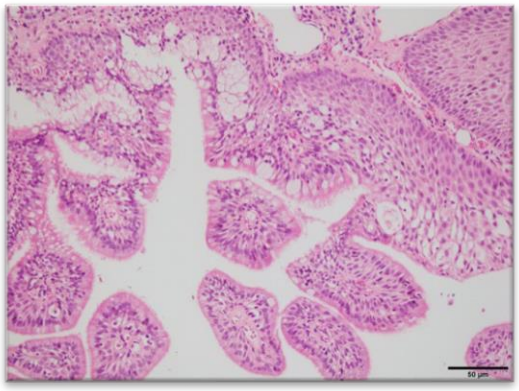

**Figure 5** high-power views of H&E staining

## 5. CONCLUSION

To summarize, TP is a very rare illness that should be continuously followed owing to its recurrence and malignant change. Cryotherapy and IFN therapy were used for a patient in the present study, and her clinical and bronchoscopic follow-up will continue.

**Acknowledgment**

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**Informed consent**

Oral and written informed consent had been received from the mother of a girl who reported in this case report.

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**Conflicts of interest**

The authors declare that there are no conflicts of interests.

**Data and materials availability**

All data associated with this study are present in the paper.

## REFERENCES AND NOTES

1. Elgart K, Faden DL. Sinonasal Squamous Cell Carcinoma: Etiology, Pathogenesis, and the Role of Human Papilloma Virus. Curr Otorhinolaryngol Rep 2020; 8(2):111-119. doi: 10.1007/s40136-020-00279-6.
2. Fortes HR, von Ranke FM, Escuissato DL, Araujo Neto CA, Zanetti G, Hochhegger B, Souza CA, Marchiori E. Recurrent respiratory papillomatosis: A state-of-the-art review. Respir Med 2017; 126:116-121. doi: 10.1016/j.rmed.2017.03.030.
3. Gillison ML, Alemany L, Snijders PJ, Chaturvedi A, Steinberg BM, Schwartz S, Castellsagué X. Human papillomavirus and diseases of the upper airway: head and neck cancer and respiratory papillomatosis. Vaccine 2012; 30:F34-54.
4. Harris K, Chalhoub M. Tracheal papillomatosis: what do we know so far? Chron Respir Dis 2011; 8(4):233-5. doi: 10.1177/1479972311416381.
5. Hermann JS, Weckx LY, Nürmberger JM, Junior GF, Pignatari AC, Pignatari SS. Effectiveness of the human papillomavirus (types 6, 11, 16, and 18) vaccine in the treatment of children with recurrent respiratory papillomatosis. Int J Pediatr Otorhinolaryngol 2016; 83:94-8.
6. Inamura K, Kumasaka T, Furuta R, Shimada K, Hiyama N, Furuhata Y, Tanaka I, Takemura T. Mixed squamous cell

and glandular papilloma of the lung: a case study and literature review. Pathol Int 2011; 61(4):252-8. doi: 10.1111/j.1440-1827.2011.02659.x.

7. Koshiol J, Rotunno M, Gillison ML, Van Doorn LJ, Chaturvedi AK, Tarantini L, Song H, Quint WG, Struijk L, Goldstein AM, Hildesheim A. Assessment of human papillomavirus in lung tumor tissue. J Natl Cancer Inst 2011; 103(6):501-7.
8. Popper HH, el-Shabrawi Y, Wöckel W, Höfler G, Kenner L, Jüttner-Smolle FM, Pongratz MG. Prognostic importance of human papilloma virus typing in squamous cell papilloma of the bronchus: comparison of in situ hybridization and the polymerase chain reaction. Hum Pathol 1994; 25(11):1191-7. doi: 10.1016/0046-8177(94)90036-1.
9. Tryfon S, Dramba V, Zoglopitis F, Iakovidis D, Sakkas L, Kontakiotis T and Galanis N. Solitary papillomas of the lower airways: epidemiological, clinical, and therapeutic data during a 22- year period and review of the literature. J Thorac Oncol 2012; 7: 643-648.