

Childhood obstructive sleep apnoea syndrome due to nasopharyngeal viral papillomatosis

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Abstract

We present a case of obstructive sleep apnoea in a child that is caused by papillomatosis of the post-nasal space.

Key words: Sleep apnoea syndromes; Papillomaviruses; Nasopharynx; Child

Introduction

Sleep apnoea in children was first described by Sir William Osler in 1892, in his book *The Principles and Practice of Medicine*, where he noted it to be due to tonsillar enlargement. Since this time most cases of sleep apnoea in children have been due to adenotonsillar hypertrophy (Marcus and Loughlin, 1996). We present an unusual case which is due to papillomatosis confined to the post-nasal space.

Case report

Our patient was born September 1986, and he presented to the sleep laboratory in the Wythenshawe hospital, Manchester in June 1996. At this time he was noted to have had apnoeic episodes every night since birth, and these had persisted despite undergoing adenotonsillectomy at another hospital two years previously. He was falling asleep whilst at school, had a very poor attention span and also suffered from nocturnal enuresis. At this time he underwent a sleep study, which showed an apnoeic index of fifty, with oxygen saturations dropping as low as 47 per cent. He was also noted to be snoring for 100 per cent of his total sleep time.

Following this investigation he was commenced on nasal continuous positive airway pressure (CPAP), to be reviewed after six months. At the review he again had a sleep study and his apnoeic index was found to have fallen to 25. This was felt to be too high and so he was continued on CPAP. He underwent sequential sleep studies until, in August 1994 he had sufficiently improved to allow the CPAP to be stopped. This remained the case until he reattended in April 1995 when he was found to snore for 96 per cent of the time and to have 228 respiratory events in eight hours of sleep. He was recommended on CPAP and referred to the ENT department.

When he was seen, examination revealed a granular mass in the nasopharynx. He then underwent sleep nasendoscopy and biopsy, which revealed the presence of a viral papilloma. Following magnetic resonance imaging (MRI) scanning (see Figure 1) he had this removed by curettage, with a standard adenoidectomy curette, at a second procedure, and viral markers showed the presence

of humanpapilloma virus types 6 and 11, the same viruses implicated in juvenile (and adult) laryngeal papillomatosis. There was no history of previous (e.g. perinatal) exposure to human papillomavirus.

A further sleep study was performed post-operatively and this revealed a normal sleep pattern with no evidence of any sleep apnoea. The patient has since returned his CPAP machine.

Discussion

Untreated sleep apnoea in children can cause daytime somnolence and failure to thrive. The child doesn't do well at school and occasionally right-sided heart failure can occur (Mandel and Reynolds, 1981). The diagnosis of sleep apnoea has to be made, and the child needs investigating to find the site of the obstruction.

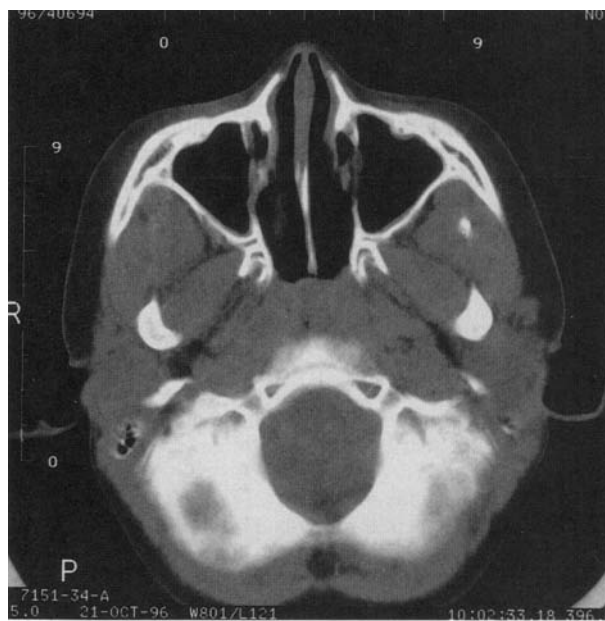


FIG. 1
Axial MRI scan revealing mass in nasopharynx.

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Papillomas caused by HPV types 6 and 11 comprise approximately eight per cent of childhood oral tumours (Abbey *et al.*, 1980). They are benign and cause little morbidity, unlike their laryngeal counterparts which are multiple, recur and can be life-threatening. Most cases of sleep apnoea in children are caused by enlarged tonsils and/or adenoids. There are two cases recorded in the literature due to non-glottic papillomatosis. One of these is supraglottic (Jakubikova *et al.*, 1996) and the other involves the oral cavity, the oropharynx and the post-nasal space (Brodsky *et al.*, 1987). Our case has the papilloma confined to the post-nasal space with no other signs of any human papillomavirus infection in other sites. All of the cases respond to treatment of the papillomas by local excision. Our patient will require regular follow-up and may well require further surgical treatment if the papillomata recur. This case demonstrates the need for full assessment for all children (and adults) presenting with obstructive sleep apnoea.

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