Laryngeal papillomatosis in an infant leading to a fatal outcome – maternal vulvar condylomata acuminata as a possible cause of intrapartum infection

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Abstract

Introduction: Death due to laryngeal papillomatosis is infrequently described [1]. According the literature, sudden death due to respiratory failure was described in adults and children (mainly above 7 years of age).

Case description: A 31-year-old tripara delivered a female eutrophic newborn baby with precipitous vaginal labour (3100 g/52 cm; Apgar score 10/10). The course of pregnancy, with an exception of cigarette smoking approximately ten cigarettes daily was unremarkable. According the medical documentation, the pap smear from previous pregnancy (3 years prior to this pregnancy) revealed moderate cervical intraepithelial neoplasia (CIN II). We found in the literature cases of children's death due to chronic respiratory insufficiency after multiple interventions for recurrent respiratory papillomatosis, as well as due to pulmonary carcinoma, but the case of severe, recurrent, massive and fast growing laryngeal papillomas in a newborn leading to a death after just 3.5 months has not been reported.

Conclusions: We found in the literature cases of children's death due to chronic respiratory insufficiency after multiple interventions for recurrent respiratory papillomatosis, as well as due to pulmonary carcinoma, but the case of severe, recurrent, massive and fast growing laryngeal papillomas in a newborn leading to a death after just 3.5 months has not been reported.

Key words: condylomata acuminata, laryngeal papillomatosis, intrapartum infection.

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To cite this article: Jerkovic Gulin S, Hrgovic Z, Jaska S. Laryngeal papillomatosis in an infant leading to a fatal outcome – maternal vulvar condylomata acuminata as a possible cause of intrapartum infection. J Obstet Gynecol Investig 2019; 2: e19–e20. DOI: https://doi.org/10.5114/jogi.2019.89208
Introduction

Death due to laryngeal papillomatosis is infrequently described [1]. According to the literature, sudden death due to respiratory failure has been described in adults and children (mainly above 7 years of age) but not in infants [1], so we present this case as a curiosity.

Case description

A 31-year-old tripara delivered a female eutrophic newborn baby with precipitous vaginal labor (3100 g/52 cm; Apgar score 10/10). The course of pregnancy, with the exception of cigarette smoking, approximately ten cigarettes daily, was unremarkable. According to the medical documentation, the pap smear from the previous pregnancy (3 years prior to this pregnancy) revealed moderate cervical intraepithelial neoplasia (CIN II). Proposed human papilloma virus (HPV) typing was rejected by the patient. Multiple condylomata acuminata of various sizes were observed in the external genital and perineal area. Before giving birth, surgical removal of genital warts was proposed but rejected by the patient. Pap smear taken during this pregnancy did not show any abnormalities. Spontaneous precipitous labor as well as the early neonatal period were unremarkable. Both mother and baby were discharged from the hospital with a recommendation for breastfeeding. Two weeks after delivery the baby started to lose weight and breastfeeding was prevented by frequent choking. Consequently, the mother began bottle formula feeding. Because of stridorous breathing, the baby was examined by a pediatrician and an otorhinolaryngologist. Laryngoscopy examination revealed papillomatous lesions on both vocal cords. The infant was referred to the specialized pediatric clinic where fulguration of the lesions was performed. The breathing normalized for the next 2 weeks, followed again by severe breathing. An ENT specialist observed recurrent lesions obstructing the rima glottides. The lesions were surgically removed, but due to the apparent recurrence of the aggressive papillomatosis lesion, tracheostomy was performed. During the prolonged hospitalization for the next 3 months the infant was fed through a nasogastric tube. Surgical excision and fulguration of papillomatous lesions were repeatedly performed with regular tracheostomy care. At the end of the third month of life, the child presented clinical and laboratory signs of severe infection (sepsis). The primary focus was bacterial and mycotic pneumonia resistant to aggressive antibiotic and antymycotic therapy. Unfortunately, due to severe inflammatory response and multi-organ failure, the child died at the age of 3.5 months. The autopsy finding indicated the supravocal and infravocal progression of papillomatosis lesions with severe tracheomalacia, massive bacterial and mycotic pneumonia with hepatization of lungs.

Discussion

Laryngeal papillomatosis is caused by the HPV, mostly associated with type 6 and 11, and rarely 16, 18, 31, and 45 [2, 3]. In children this condition is characterized by massive growth, frequently multifocal lesions with a tendency to recur and spread throughout the respiratory tract (recurrent respiratory papillomatosis) [1]. Human papilloma virus shows high affinity for the junction of ciliary and squamous epithelia. Therefore, papillomas are frequently found on the false vocal folds, the upper and lower margins of the trachea, and the lower surface of the true vocal folds [1]. Although spontaneous remission may occur, pulmonary spread and malignant transformation to squamous cell carcinoma of the lung have been reported [4]. Surgical excisions may secure an adequate airway, but repeated recurrences are common and frequently lead to multiple procedures and serious complications [5]. In patients who underwent tracheotomy, lesions are commonly revealed at the stoma [1]. Moreover, tracheotomy is considered a cause of accelerated dissemination of papillomas throughout the respiratory tract [6]. Younger age at the time of diagnosis is associated with more aggressive disease behavior [7]. Genital warts during pregnancy are considered the strongest risk factor for acquiring laryngeal papillomatosis by vertical HPV transmission from mother to child. Furthermore, if genital warts are present at the time of delivery, a cesarean section must be performed in order to prevent possible serious laryngeal papillomatosis [8].

Conclusions

We found in the literature cases of children's death due to chronic respiratory insufficiency after multiple interventions for recurrent respiratory papillomatosis [1], as well as due to pulmonary carcinoma [4], but the case of severe, recurrent, massive and fast growing laryngeal papillomas in a newborn leading to a death after just 3.5 months has not been reported.

Conflict of interest

The authors report no conflict of interest.

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