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Title: Recurrent respiratory papillomatosis - rapid response to systemic bevacizumab

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Body: Recurrent respiratory papillomatosis (RRP) is a potentially devastating, non-curable disease caused by infection with human papilloma virus (HPV), mainly HPV-6 and -11. Manifestations of RRP can occur everywhere in the respiratory tract and may lead to laryngeal, tracheal or bronchial obstructions, pulmonary nodes and cystic lesions due to valve effects. Malignant transformation occurs in 3 to 5% of the cases. Long-term management of patients with recurrent respiratory papillomatosis (RRP) remains challenging. Local debulking is the current treatment of choice and antiviral therapy is a possible adjuvant approach. Here, we report an immediate and sustained therapeutic effect of systemically applied bevacizumab without further local treatment in a series of five consecutive patients (7-56y) with RRP. In all cases, a rapid response to the first infusion of bevacizumab could be documented bronchoscopically within a few days.

Continued anti-VEGF treatment resulted in sustained (very good) partial responses of tracheal or laryngeal papilloma manifestations. Due to limited alternatives VEGF-targeted therapies represent a promising novel strategy in the treatment of RRP and should be further investigated in clinical trials.