



## A Unusual Actinomyces Odontolyticus Case Infection After Injection Deflux Laryngoplasty

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*Actinomyces odontolyticus*, which is part of the normal oral commensal flora, is a gram-positive, anaerobic bacteria. It was previously shown to be a rare cause in humans of endogenous bacterial infections. In the current case study, we present an unusual case of vocal cord infection caused by *Actinomyces odontolyticus* in an otherwise healthy male patient after Deflux injection laryngoplasty.

*Actinomyces* are gram-positive, facultative anaerobes that are part of the human oral cavity, gastrointestinal tract, and vaginal mucosa's natural commensal flora. More than 30 different *Actinomyces* species have been described. While typically considered to have a low potential for virulence, previous studies have shown that when the normal mucosal barrier has been broken, *Actinomyces* species are a rare cause of infection.

*Actinomyces odontolyticus* is a species originally isolated by Batty in 1958 from dental caries. Clinical infections due to *Actinomyces odontolyticus* include cutaneous and cervicofacial infections, bacteremia, thoracopulmonary infection, and localized abscesses in different organs. The pathogenicity of this organism is rarely detected. *Actinomyces* infection rarely affects the larynx and in the literature of primary laryngeal actinomycosis caused directly by *Actinomyces odontolyticus*, there are only a limited number of case reports. Here, in a stable, 61-year-old male patient, we record a case of unilateral vocal cord infection by *Actinomyces odontolyticus* following Deflux laryngoplasty injection.

In April 2016, a 61-year-old stable male patient presented a long-standing history of hoarseness and vocal exhaustion to the voice airway clinic. Flexible nasopharyngoscopy and stroboscopy showing pronounced bilateral atrophy of the vocal cord were performed, resulting in a large mid membrane gap and recurrent presbylarynx-compatible air leakage. In view of the functional voice problems of the patient, he was involved in an augmentation trial and underwent bilateral vocal cord injection laryngoplasty in a Perlane short-acting injectable clinic (Q-Med, Uppsala, Sweden). With positive functional outcomes post-procedural and no complications, the patient handled the procedure well.

The patient was interested in proceeding with a longer-lasting injectable after a discussion of the different treatment options available; Deflux (Q-Med, Uppsala, Sweden), a relatively newer product consisting of a viscous gel of dextranomer microspheres in a hyaluronic acid carrier gel to allow a longer duration of action. In August 2019, the patient was taken under general anesthetic to the operating theatre for bilateral injection laryngoplasty with Deflux. A total of 0.3 mL of Deflux was administered with successful results into the left vocal cord and 0.4 mL into the right vocal cord and the patient was discharged without complications after surgery at home.

Nasopharyngoscopy was performed, showing, despite bilateral injection, profuse, but distinctly unilateral left supraglottic and glottic edema and severe left vocal cord hypomobility. The patient was treated conservatively with a tapering dose of oral prednisone and a ten-day course of amoxicillin-clavulanate following the test.

Laryngoplasty injection is a minimally invasive surgical procedure for vocal fold augmentation and medialization to minimize glottic insufficiency caused by paralysis or atrophy of the vocal cord. It is becoming increasingly popular with advances in technology and delivery as first line management for vocal cord augmentation with little risks and complications.