

# Bilateral inferior turbinate sequestration following mucosal bipolar electrocautery reduction.

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## Introduction

Inferior turbinate (IT) reduction is a common surgical procedure which aims to correct IT hypertrophy associated with allergic rhinitis refractory to medical management. We present a case of bilateral osteonecrosis following IT reduction by mucosal bipolar cauterisation in a 2-year-old boy.

## Case

A 2-year-old boy with no significant medical history underwent an adenotonsillectomy and bilateral IT bipolar cautery for sleep disordered breathing. With a bayonet bipolar diathermy at a setting of 10W, cautery was applied to the inferior and medial aspect of the IT surface mucosa under endoscopic guidance. He represented 6 weeks later with persistent halitosis, mouth-breathing and frequent nose rubbing. Anterior rhinoscopy revealed crusting in both nostrils in the absence of an upper respiratory tract infection, with the child not tolerating further investigation with nasendoscopy. There was no improvement following a trial of fluticasone furoate nasal spray, and he reported a persistent

malodorous purulent discharge from both nasal cavities. Given this atypical history, the decision was made to proceed to an examination under anaesthesia of both nasal cavities. Intraoperatively, thin irregular sheets of calcified bony material were found in both inferior meatuses and were removed. Macroscopically, the specimen resembled the inferior conchal bone (Figure 1). Inflamed granulation tissue with mixed inflammatory cells including neutrophils, plasma cells and lymphocytes was found on histopathology (Figure 2). Tissue culture of the bony material grew *Streptococcus constellatus*, *Staphylococcus aureus*, *Streptococcus anginosus*, *Streptococcus pneumoniae* and *Prevotella* species with all species sensitive to amoxicillin-clavulanic acid.

## Literature Review/Discussion

Osteomyelitis and osteonecrosis as a consequence of turbinoplasty and need for subsequent removal of the diseased bone via examination under anaesthesia has been reported in five patients. Notably, there are no reported paediatric cases of osteomyelitis as a complication of bipolar cauterisation without turbinoplasty. Patients were aged between 12 and 42, three received turbinoplasty alone whereas two had either a septoplasty or out-fracture. Crusting, foul smell in the nose, purulent discharge with/without bloodstaining, epistaxis and recurrent sinusitis were presenting features for this complication.

## Conclusion

IT reduction, whilst widely performed and largely safe, is not without risks. We present a rare complication of osteonecrosis of the IT following reduction surgery, which highlights the need for further investigation of any unresolving symptoms following otherwise uncomplicated IT cautery in children. Return to theatre should be strongly considered in patients who have unexplained persistent postoperative symptoms refractory to medical management.

## References

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Figure 1. Irregular sheets of calcified bony material found in inferior meatus.

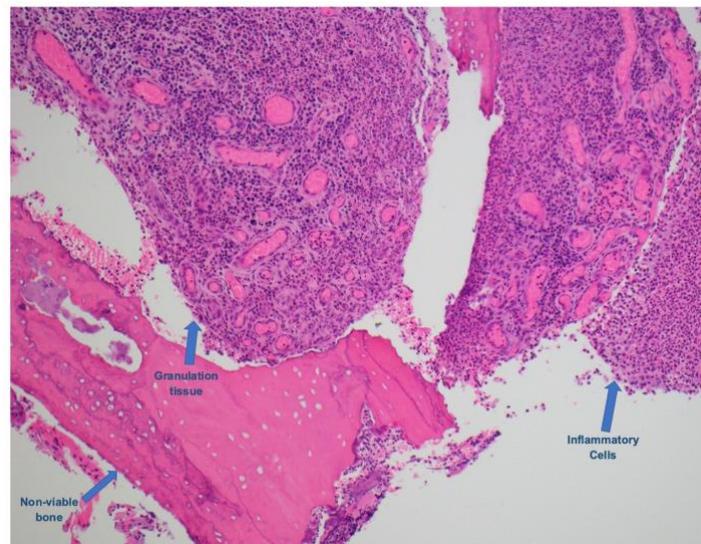


Figure 2. Histopathology of bony material showing non-viable bony material in addition to surrounding granulation tissue and inflammatory cells.



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