

# Water Wash Should Be the Ideal Initial Treatment for Adult Allergic Eustachian Tube Dysfunction - A Report

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## ABSTRACT

Persistent eustachian tube dysfunction can lead to chronic middle ear complications. The most common cause of eustachian tube dysfunction in adults is due to allergic rhinosinusitis. In most instances the allergic insult is not initially readily apparent. The present approach to the treatment of adult allergic eustachian tube dysfunction is using nasal steroids and oral histamines, even though there are no randomized controlled trials supporting such a treatment. I developed eustachian tube dysfunction and tinnitus after inhaling dust from reusing an improperly stored mask during COVID time. I had mild relief of tinnitus with nasal steroids, and oral anti histamines, but the retraction of my left ear drum persisted. The present treatments unfortunately do not focus on removing the allergen from the nasal cavity. I used water from a reliable source to irrigate my nasal passages with a syringe, which completely removed the allergen from my nasal passages, and my left tympanic membrane retraction was completely reversed, with almost complete resolution of tinnitus. So, water wash along with a targeted history taking should be the ideal initial approach to treat persistent allergic eustachian tube dysfunction. Nasal steroids should be only a adjunctive treatment.

**Keywords:** Eustachian, chronic middle ear, Rhinosinusitis, Nasal steroids, Tinnitus

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## INTRODUCTION

Persistent eustachian tube dysfunction can cause tinnitus, serous otitis media, and retraction of the eardrum. The most common cause of eustachian tube dysfunction in adults is due to allergic rhinosinusitis<sup>1,2</sup>. There are lot of lacunae in the present knowledge and treatment Eustachian tube dysfunction. My attempt is to address gaps in the current understanding of this condition. I recently had a personal experience of this condition which triggered me to write about this condition.

## BRIEF REPORT

In 2021 February I who happens to be a Endocrinologist, developed sudden onset of flapping of my left ear drum, while sitting in my Endocrinology office seeing patients. It was the time of COVID, and so was wearing masks. I had no rhinitis, cough, or fever, except for the flap or popping of the ears. As it was irritating to me, I immediately saw a otolaryngologist who diagnosed me with eustachian tube salpingitis and he prescribed me antibiotics, nasal steroids and antihistamines, and the symptoms resolved immediately. After around 2 weeks I developed I acute onset of tinnitus in my left ear , I met the otolaryngologist and he prescribed to me oral antihistamines and nasal steroids and saline spray. To me tinnitus was a nuisance. These episodes were due to my mistake of reusing improperly stored masks, which had accumulated some dust. I took oral antihistamine tables and nasal steroids for the next four weeks and felt the gradual improvement of tinnitus after four to six weeks (**Table 1**).

I had my tympanic membrane examined and I had retraction of tympanic membrane on my left side, even though I had a retraction of the left tympanic membrane, I was not offered any extra treatment. I had intermittent flare up of tinnitus in winter which apparently was triggered by cold/ dust. I again met the otolaryngologist who just prescribed the same antihistamines and nasal steroids. He also prescribed to me commercially available saline spray solutions, which paradoxically worsened my tinnitus.

I chanced upon a article about saline wash of the sinuses, I tried to experiment with clean water wash, with water sourced from commercial packaged drinking water and felt very good relief. After 2-3 days I felt a sudden noise in my left ear as if a drain is being opened and felt my left ear drum being popped back into position. I felt better and the tinnitus also became significantly minimal.

So I learned that simple water wash of my nasal cavity can help drain off any allergic materials in my nasal passages, which is irritating to my eustachian tubes.

Now I feel much better, tinnitus has almost disappeared, and I feel I am in total control of most of my allergic salpingitis and tinnitus. When you do water wash you find you have a almost immediate improvement in your symptoms and also need to take nasal steroids only for a few days, instead of weeks.

## DISCUSSION

The main cause of eustachian tube dysfunction in adults is due to allergic reactions to allergens in the nasal passages<sup>3</sup>. We need to take a detailed history from the patient and educate him or her to avoid such allergens. If by chance allergens cannot be identified then we need to remove the allergen from the nasal passages, unfortunately in in present day Otolaryngology practice this is not being done, the focus is on giving nasal steroids, without any attempt to remove the allergen from the nasal passages. In various trials from children and adults the efficacy of nasal steroids in treating Eustachian tube dysfunction is not proven. In a randomized control trial by Gluth et al. intranasal triamcinolone failed to demonstrate efficacy in treating manifestations of Eustachian tube dysfunction<sup>4</sup>. Evidence to support the use of oral decongestants and antihistamines for Otitis media in children is lacking in a study by Cantekin EI<sup>5</sup>.

My hypothesis is that these nasal steroid trials lacked efficacy, as there was no attempt in removing allergens from the nasal passages.

Water wash with 5-20 ml of clean water should be the ideal, initial step in the management of most cases of recurrent eustachian tube dysfunction or any unidentified cause of tinnitus. 3-5 ml of water is instilled in one nasal cavity and is allowed to drain from the other nasal cavity, making sure to tilt the head in a posterolateral angle to ensure the eustachian tube orifice and adjacent areas are adequately flushed. This will immediately remove the allergen and prevent any worsening or blocking or inflammation of the eustachian tube. Oral antihistamines and nasal steroids can be adjunctive treatment, rather than initial treatment. I believe all doctors, and all otolaryngologists should be able to do water washing as part of their clinical training. This will help in the rapid relief of nasal rhinitis and nasal salpingitis, prevent any eardrum retraction and long-term complications in the middle ear (**Flow chart**).

Table 1: Treatment Modality.

Treatment Modality	Advantges	Disadvantages/Remarks
Water wash	Immediate relief, Cost effective, Remove allergen, May prevent tinnitus	Need to find reliable clean reliable source
Nasal steroids	Effective in some	May have systemic effects, Need to use for 2-4 weeks, Does not remove allergen, No trial evidence
Saline spray	Mild relief	Irritative in some people, May worsen eustachain tube dysfunction

Tinnitus with no identifiable cause  
  
(Excluded-drugs, Acoustic trauma, Infections, Middle ear mass, Vascular, Ischaemic, Stroke)



Most probably allergic due to eustachian tube dysfunction  
  
Water wash with 10-20 ml sterile/clean water in both nostrils thrice a day for 3 days, may use oral antihistamines, nasal steroids briefly

### CONCLUSION

The current treatment of acute/ recurrent salpingitis of eustachian tube is currently flawed, as there's no initiative to identify or remove the allergen, and the current treatments like nasal steroids only offer transient symptomatic relief. So, I want to conclude that allergic eustachian tube dysfunction can be fully and easily completely treatable with water wash and thus we can prevent any middle ear complications. Nasal steroids

and oral antihistamines should only be an adjunctive treatment, to suppress allergic inflammatory response after the allergen is removed.

### CONFLICTS OF INTEREST AND SOURCE OF FUNDING

There is no conflict of interest relevant to this article author's disclosure self-reporting case report.

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