

Endoscopic Appearance and Clinical Characteristics of Postnasal Drip

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INTRODUCTION

Post-nasal drip (PND) is a common complaint among patients; however, both the etiology and management remain poorly characterized. PND is generally defined as a globus sensation and without clinical evidence of inflammation or irritation on physical exam.¹ Patient-described PND may represent myriad sensations ranging from a real perception of phlegm or mucus within the throat to a sensation of fullness in the nasopharynx while simultaneously experiencing that something is adhered to the walls of the throat.²

Most studies to date have focused on classifying PND by clinical etiology, with associations ranging from gastroesophageal reflux disease (GERD) to chronic rhinosinusitis (CRS) to allergic rhinitis (AR).² However, these studies do not build on correlations of nasal endoscopy findings or localization of the site of mucus.

The objective of this study was to analyze correlations between the subjective complaint of PND and other symptoms, comorbidities, and endoscopy findings.

METHODS

This cross-sectional study enrolled adults above the age of 18 treated from an outpatient otolaryngology practice between May 2022 and October 2022. Patients were included if they reported active PND, either as a chief complaint or upon questioning. If only historic PND was reported, the patient was not included in the study. Patients with a prior history of head and neck cancer or radiation therapy were excluded.

Nasal endoscopy was performed on any every patient to record presence of mucus. For analysis, the categories were mucus (any consistency), thin mucus, thick mucus, and saliva. If mucus was present, the location was noted as either in the nasal cavity (NC), on the inferior turbinate (IT), in the middle meatuses (MM), or superior sphenoid recess (SER) to find if a relationship exists between the presence of a chief complaint (CC) of PND and the presence of mucus or saliva within the nasopharynx. NC and IT locations were combined, and MM and SER were combined into groups for statistical analysis. NC was defined as presence of mucus in any other area other than the IT, MM, or SER. Patient reported symptoms of globus sensation, throat clearing, cough, hoarseness, and dysphagia were combined into one group titled "reflux symptoms" for statistical analysis. Patients past medical history and certain medication usage (within the last 2 weeks) were recorded. Patient data were compiled, and tests of association were completed to test for significant correlations between factors. This study did not involve any intervention for the subjects.

RESULTS

- Mucus was identified in 94% of patients for whom PND was a chief complaint (p=0.01).
- Mucus in any location (NC, IT, MM, SER) was significantly associated with a symptom of ear fullness (94%, p=0.012) and comorbidity of CRS (93%;p=0.023).
- Patient reported symptom of cough was significantly associated with presence of thick mucus (76%) compared to thin mucus (23%; p=0.041).
- Thin mucus in NC or IT was more likely to be associated with nasal congestion (67%; p=0.03) and comorbidity of AR (75%; p=0.027).
- Thick mucus in NC or IT was more likely to be associated with reflux symptoms (53%; p=0.043), cough (64%; p=0.043), and the use of anti-reflux medications (54%; p=0.043)
- There was no significant relationship found between presence of saliva on nasal endoscopy and history of GERD (78%; p=0.025).

CONCLUSIONS

Localization of mucus on nasal endoscopy can assist with the classification of PND in the clinical evaluation. The great majority of patients with PND have identifiable mucus on examination, the origin of which has a differential association with comorbid disease states and other clinical characteristics.

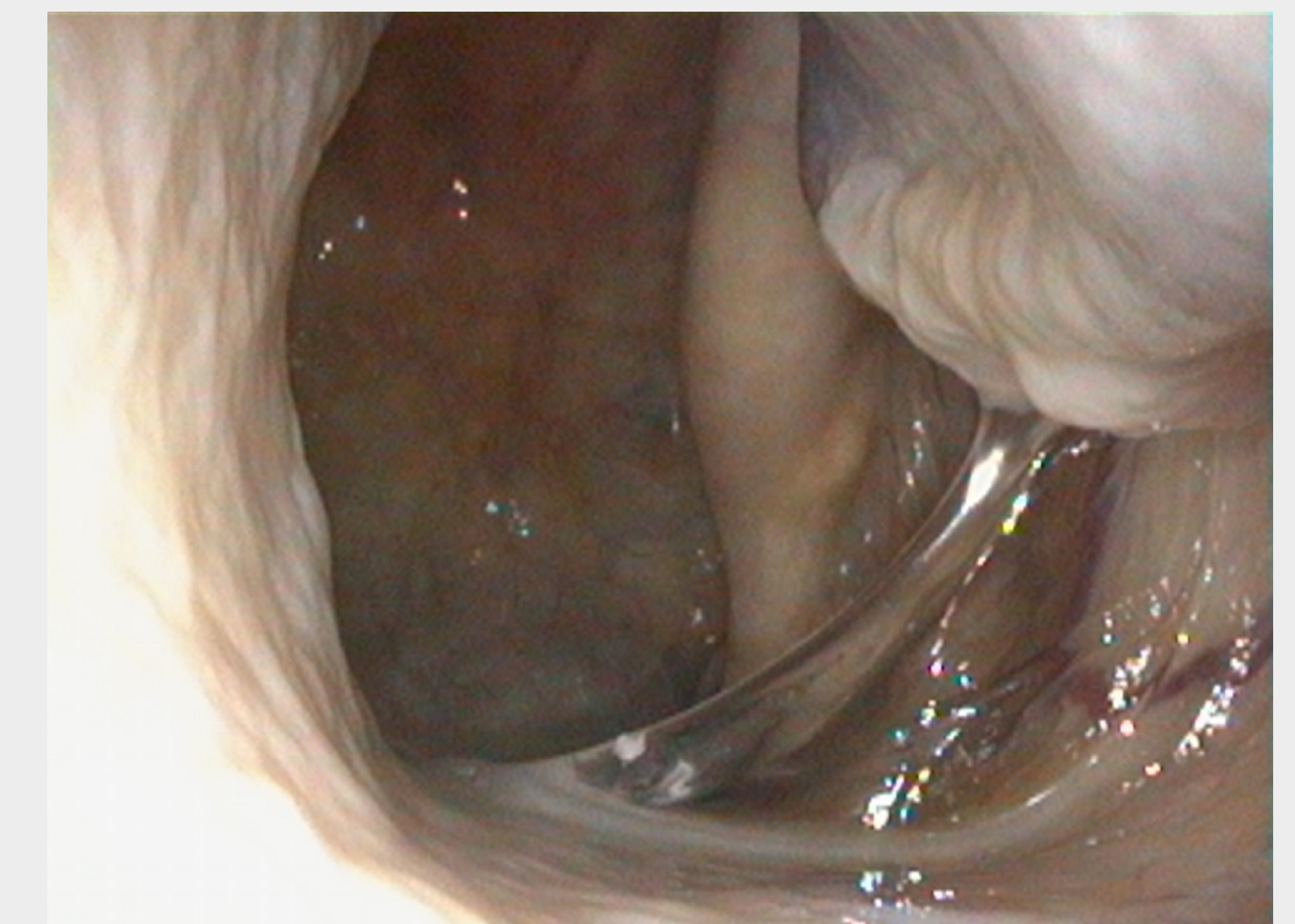


Figure 4. Thin mucus from inferior turbinate

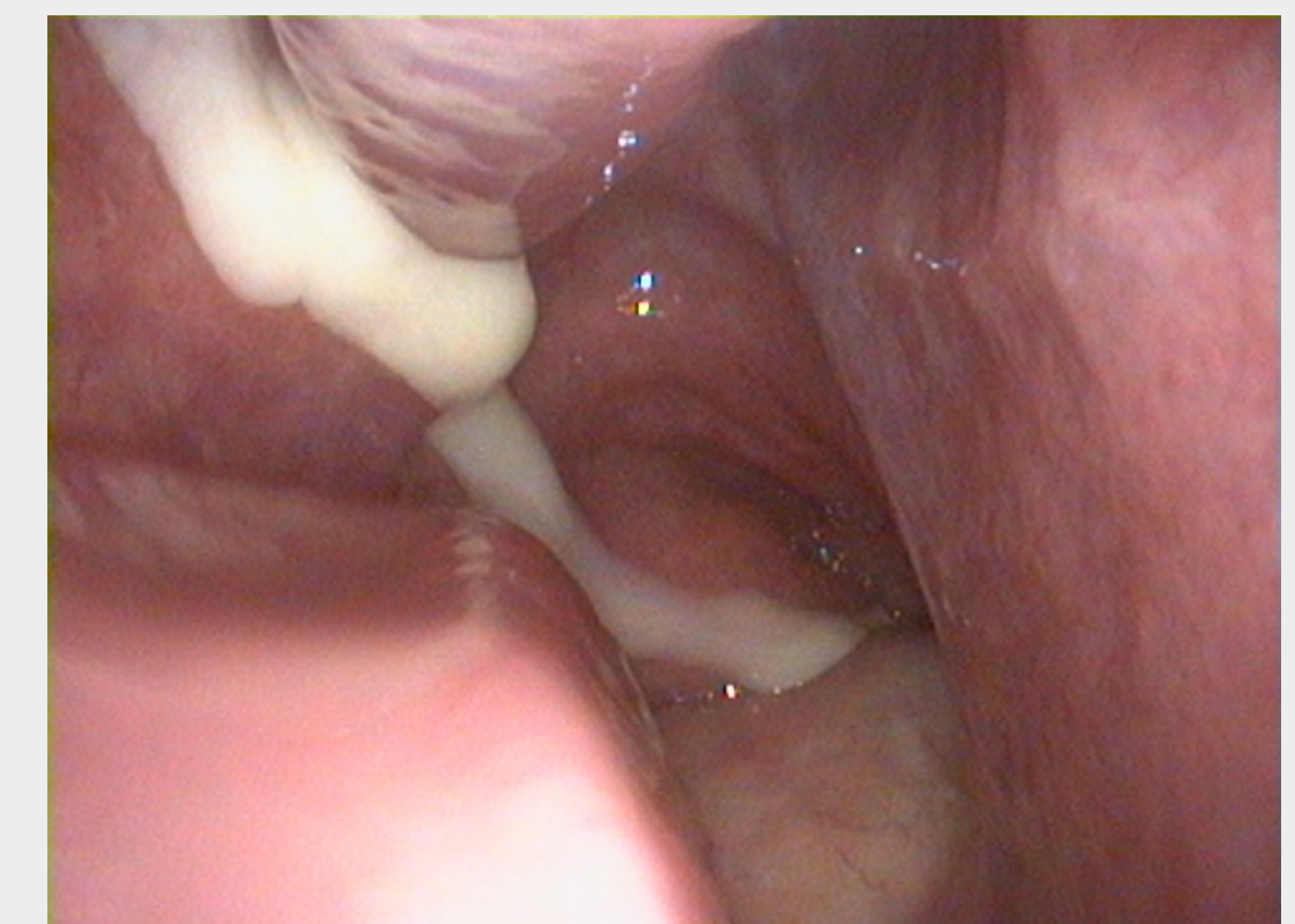


Figure 5. Purulent mucus from middle meatus

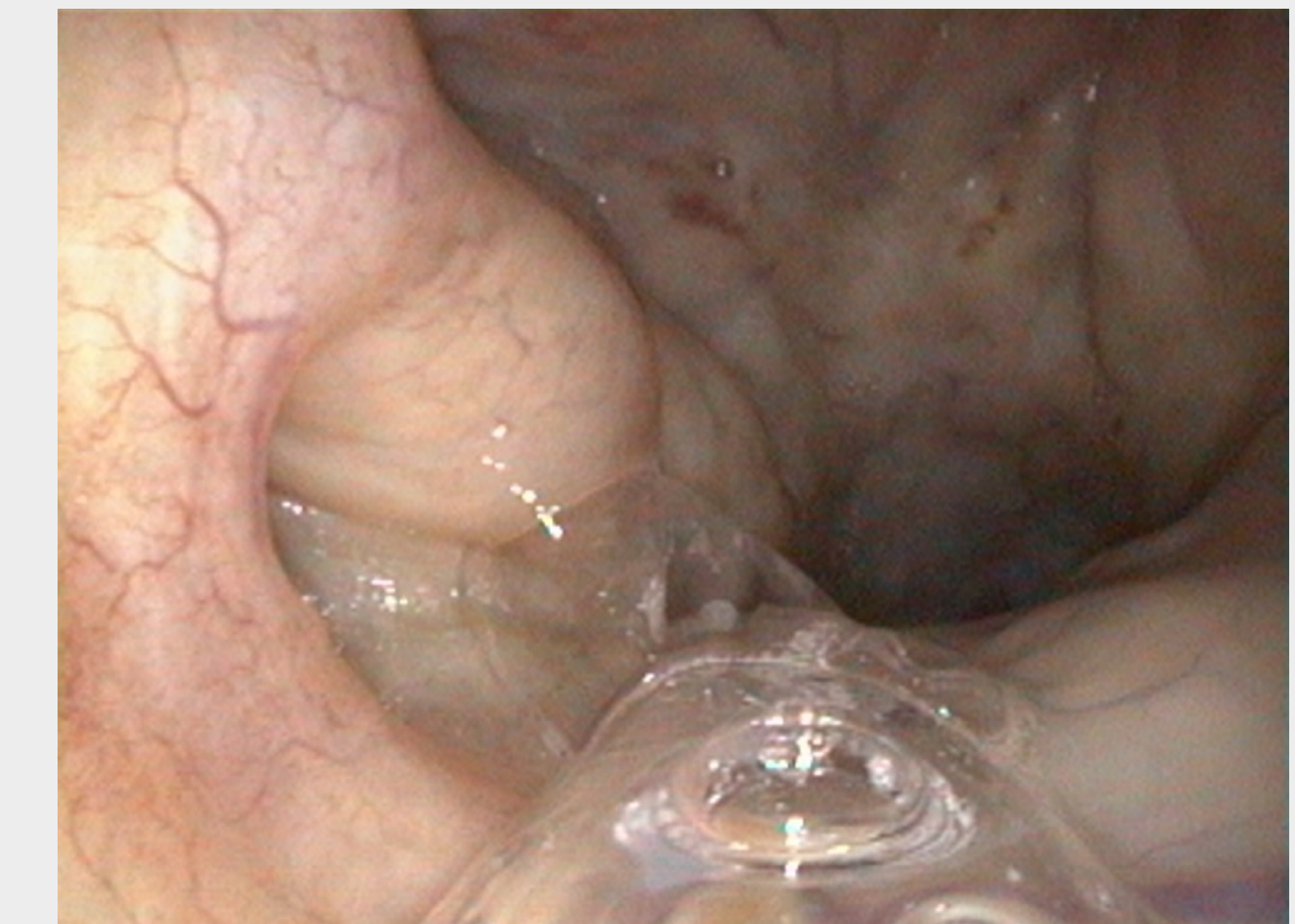


Figure 6. Nonpurulent nasal cavity mucus



Figure 7. Saliva in nasopharynx

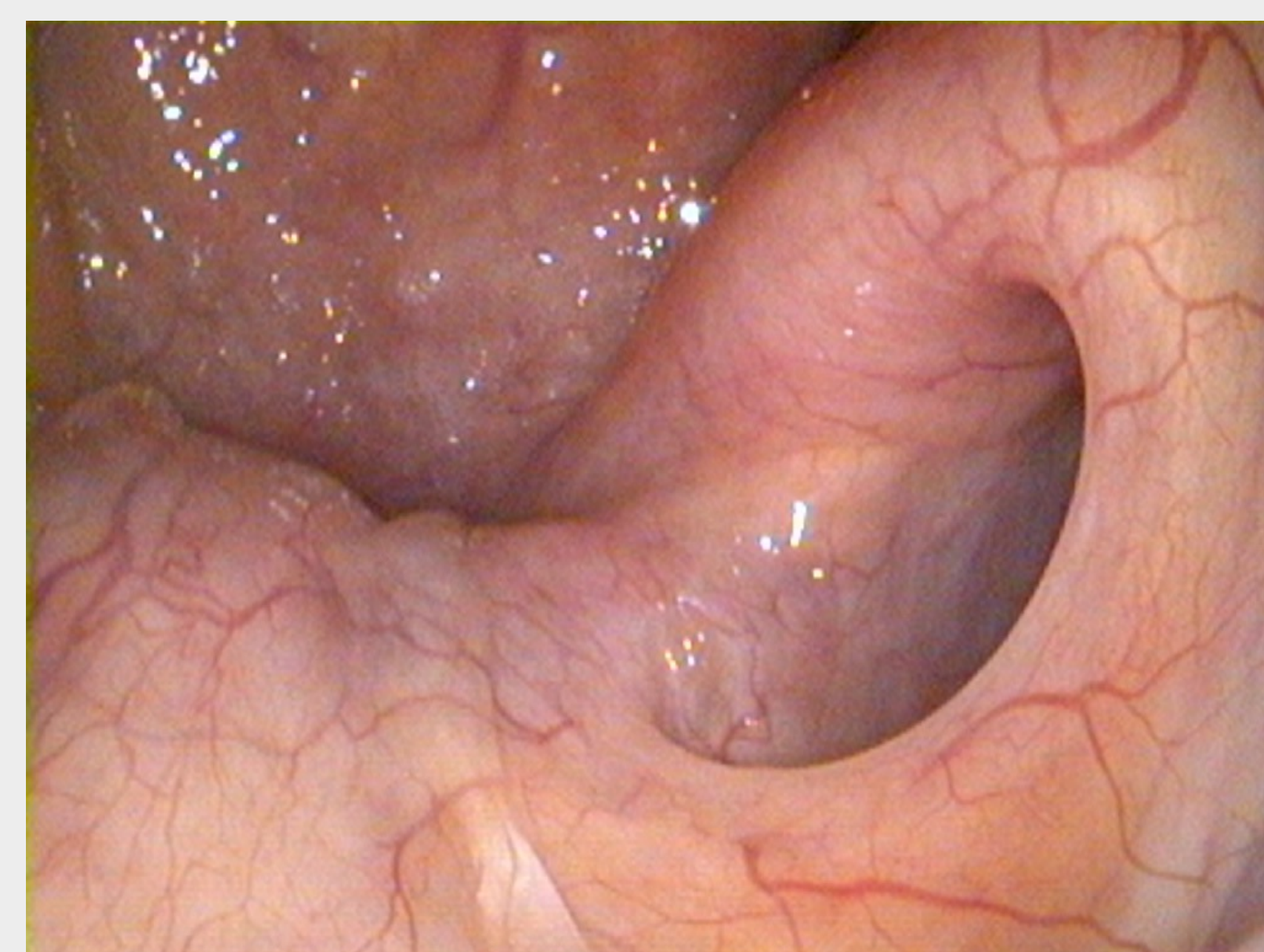


Figure 2. Faint trail of thin nasal cavity mucus

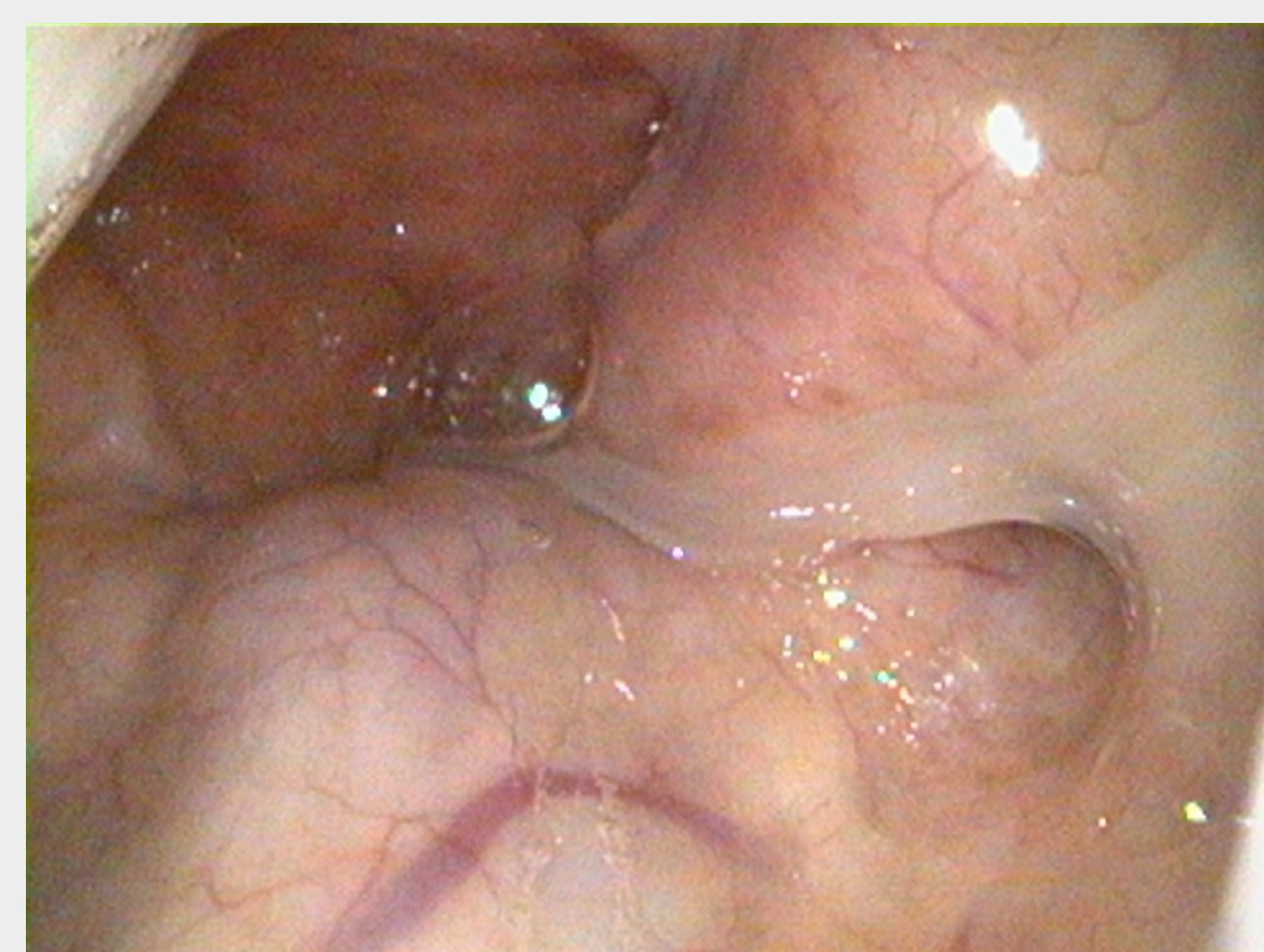


Figure 3. Nonpurulent middle meatus mucus

	Total # of patients	Mucus in NC/IT	Mucus in MM/SER	Mucus not present
Finding on endoscopy	102	55 (54%)	40 (39%)	17 (17%)
CC of PND	47	29 (62%)	22 (49%)	3 (6%)
SNOT-22, mean (SD)	38.9 (19.0)	41.7 (20.3)	39 (42.9)	29.8 (11.5)
Sex				
Female	67	34 (51%)	26 (39%)	14 (21%)
Male	35	21 (60%)	14 (40%)	3 (9%)
Age, mean (SD)	57.4 (14.8)	58.0 (14.0)	56.0 (15.7)	58.9 (16.1)
Symptoms				
Reflux symptoms	60	34 (57%)	24 (40%)	9 (15%)
Cough	28	16 (57%)	8 (29%)	5 (18%)
Ear fullness	33	20 (61%)	15 (45%)	2 (6%)
Nasal congestion	58	31 (53%)	19 (33%)	12 (21%)
Facial pressure	40	18 (45%)	18 (45%)	6 (15%)
Hyposmia	23	13 (57%)	11 (48%)	4 (17%)
Watery rhinorrhea	9	4 (44%)	4 (44%)	2 (22%)
Pruritic symptoms	9	5 (56%)	2 (22%)	3 (33%)
Comorbidities				
AR	34	21 (62%)	13 (38%)	2 (6%)
CRS	41	16 (39%)	30 (73%)	3 (7%)
GERD/LPR	45	27 (60%)	16 (36%)	6 (13%)
ETD	6	1 (17%)	2 (33%)	3 (50%)
OSA	9	4 (44%)	4 (44%)	1 (11%)
COPD/Bronchitis	2	1 (50%)	1 (50%)	1 (50%)
Medications				
INCS	69	34 (49%)	30 (43%)	11 (16%)
INAH	21	13 (62%)	3 (14%)	5 (24%)
Oral AH	22	12 (55%)	6 (27%)	6 (27%)
Antibiotics	15	7 (47%)	11 (73%)	1 (7%)
Antireflux (PPI, H2B)	31	18 (58%)	14 (45%)	1 (3%)
Workup				
Positive allergy test	31	19 (61%)	7 (23%)	6 (19%)
Other Exam Findings				
Septal deviation (Yes)	43	15 (35%)	15 (35%)	2 (5%)
ITH (Yes)	40	13 (33%)	13 (33%)	2 (5%)

Table 1. Clinical characteristics according to localization of mucus

REFERENCES

1. Yu JL, Becker SS. Postnasal drip and postnasal drip-related cough. Curr Opin Otolaryngol Head Neck Surg. 2016;24(1):15-19.
2. Ryan MW. The patient with "postnasal drip". Med Clin North Am. 2010;94(5):913-921.