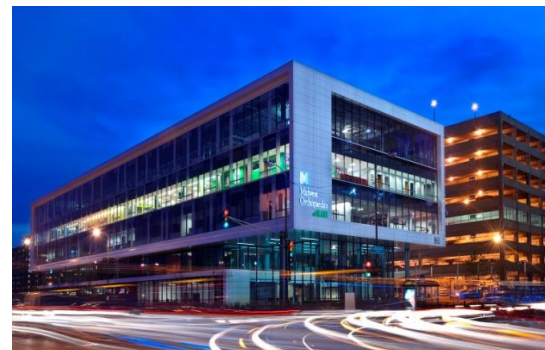


Recalcitrant Maxillary Sinusitis



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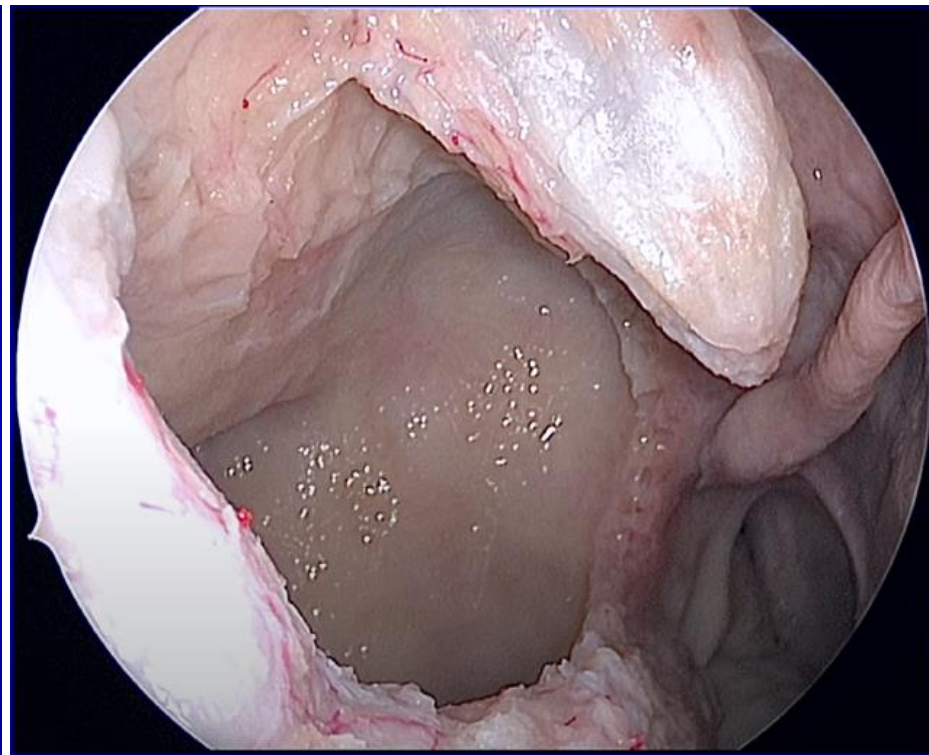
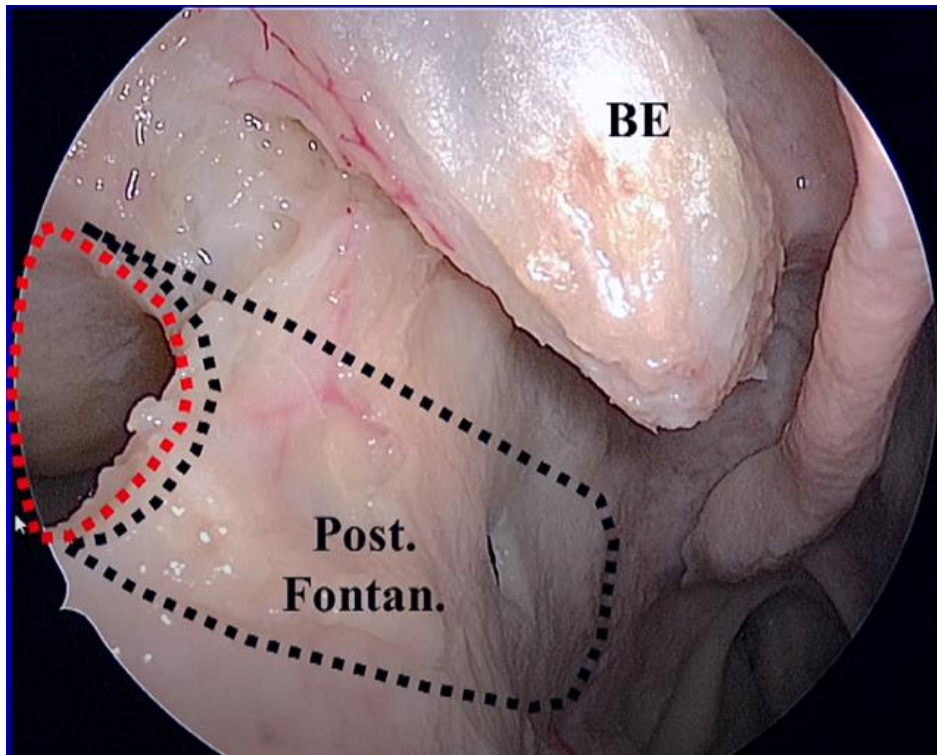
Disclosures

➤ None

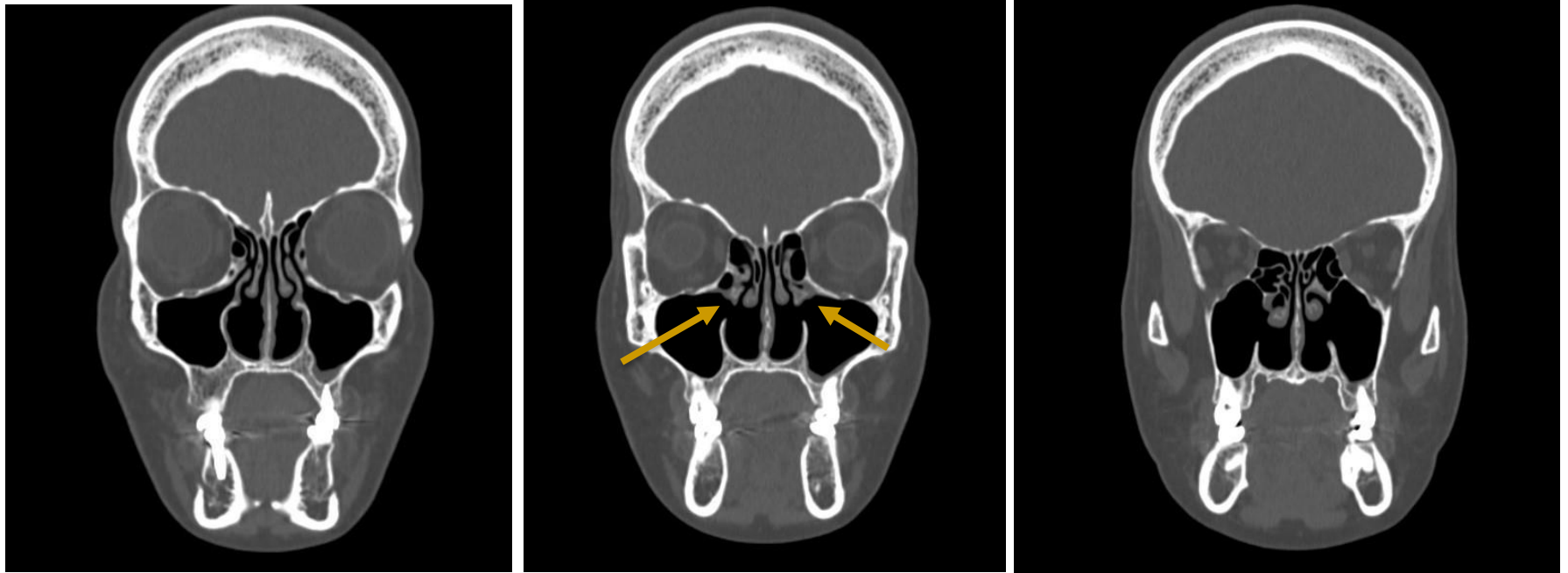
Recalcitrant Maxillary Sinus Disease

- **Recirculation**
- **Tumors/Foreign bodies/Dental Disease**
- **Dysfunctional Maxillary sinus**

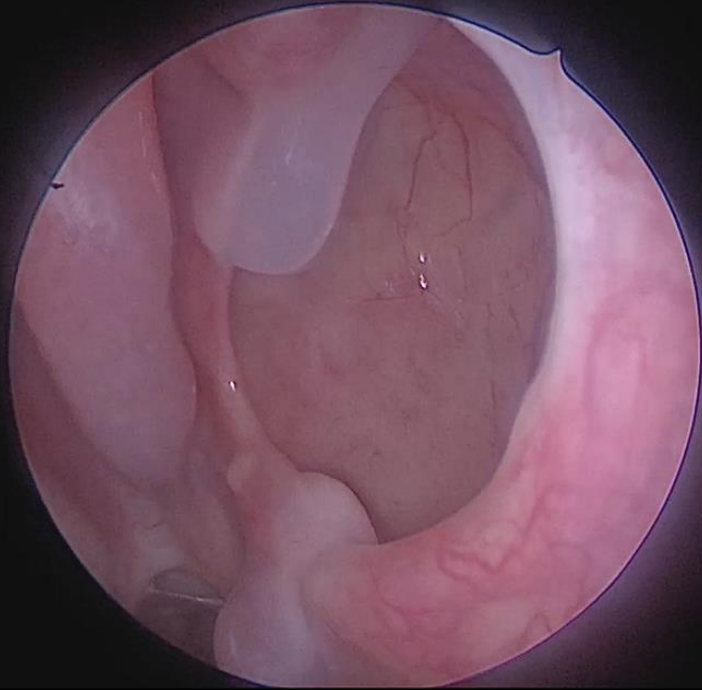
Maxillary Antrostomy



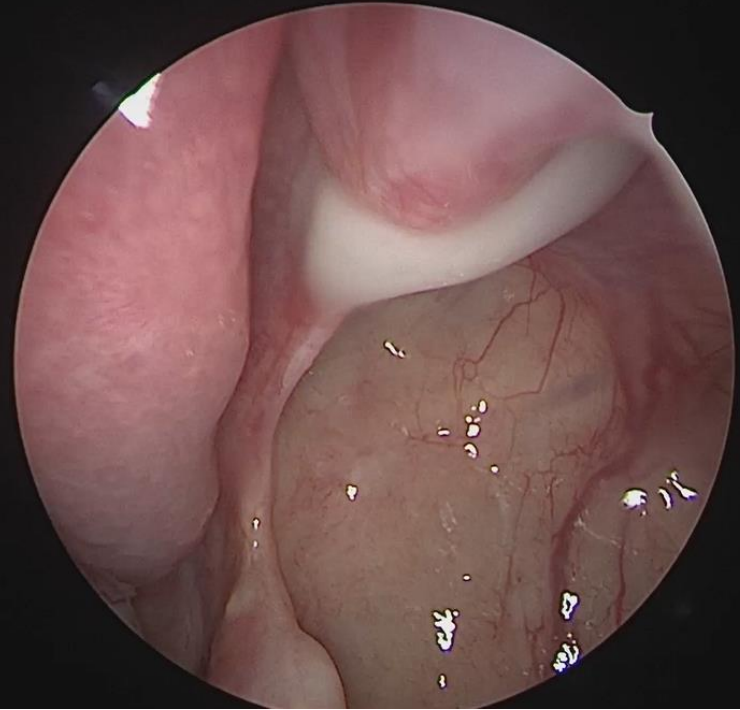
Mucus Recirculation



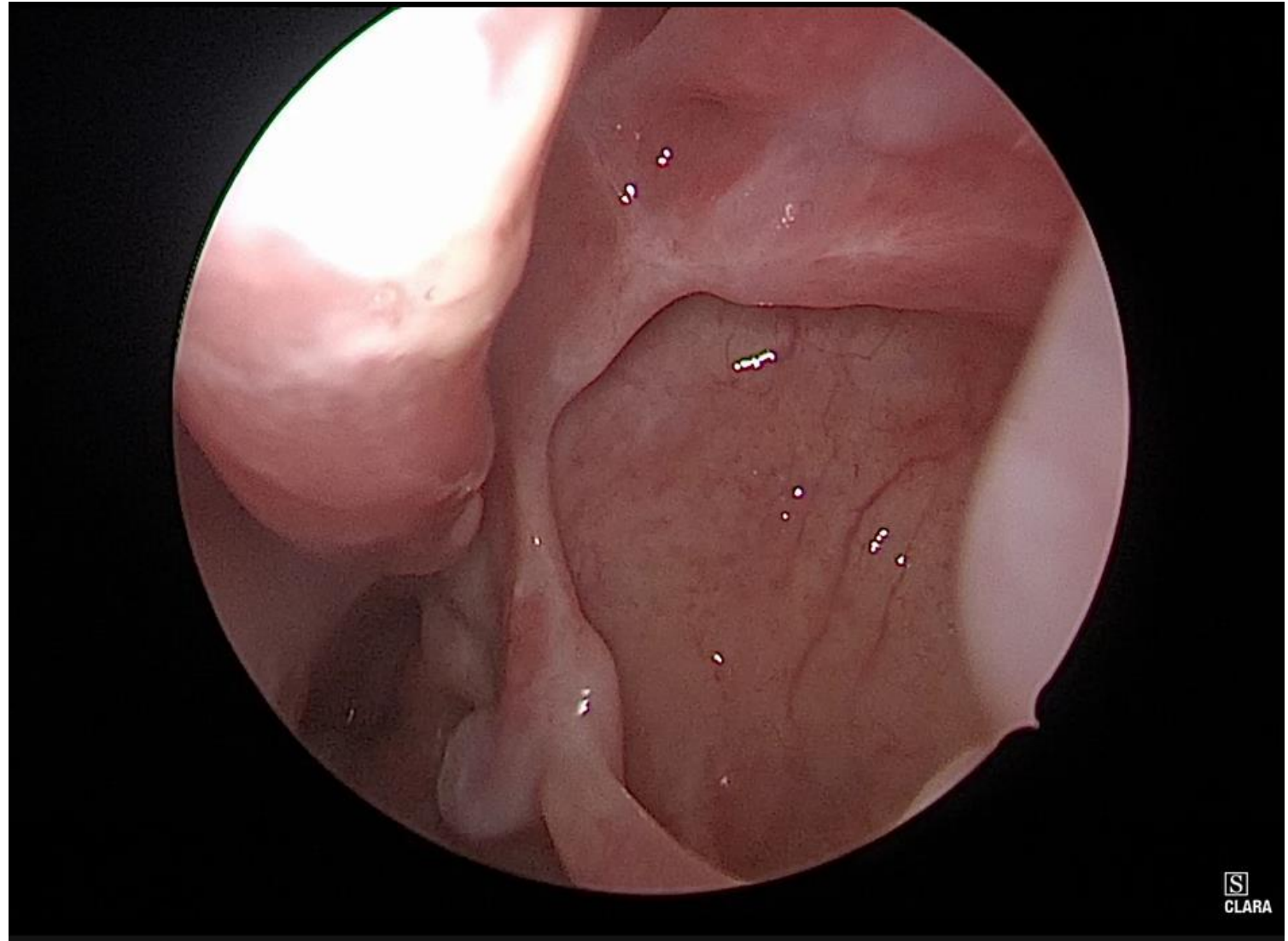
Mucus Recirculation



:spies
CLARA

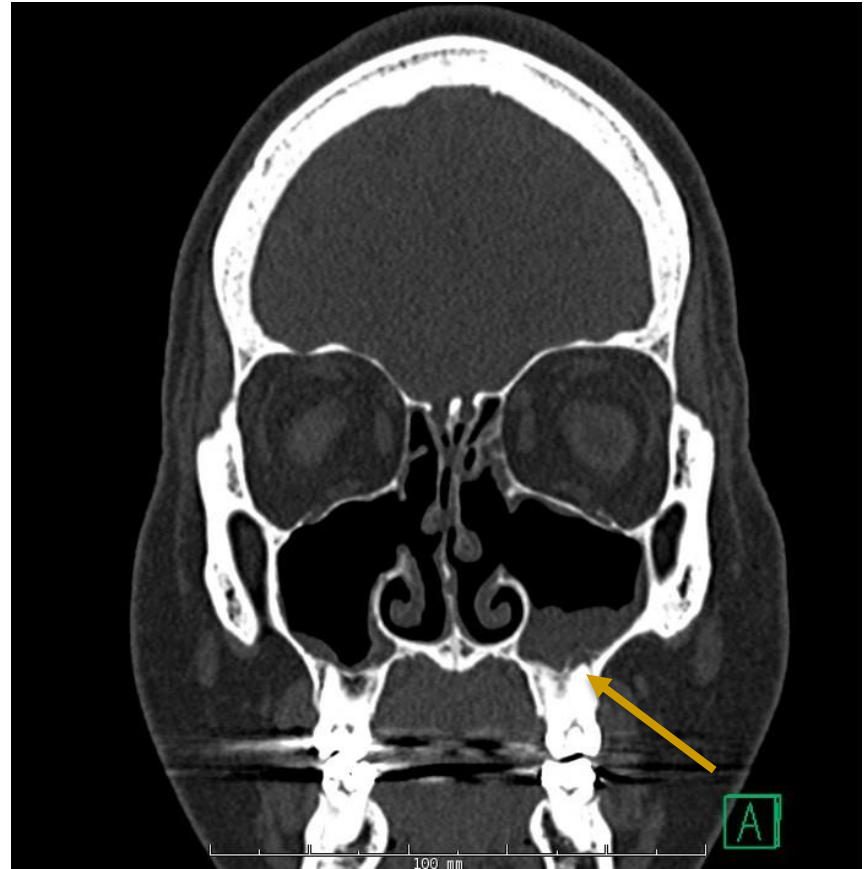
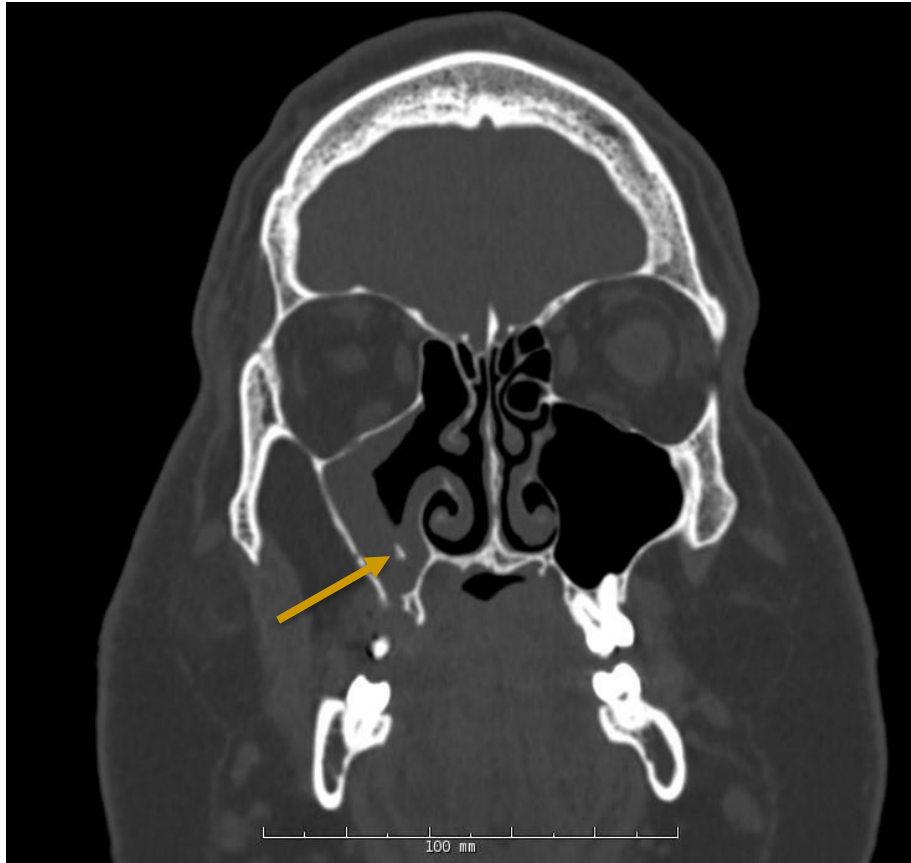


Mucus Recirculation



S
CLARA

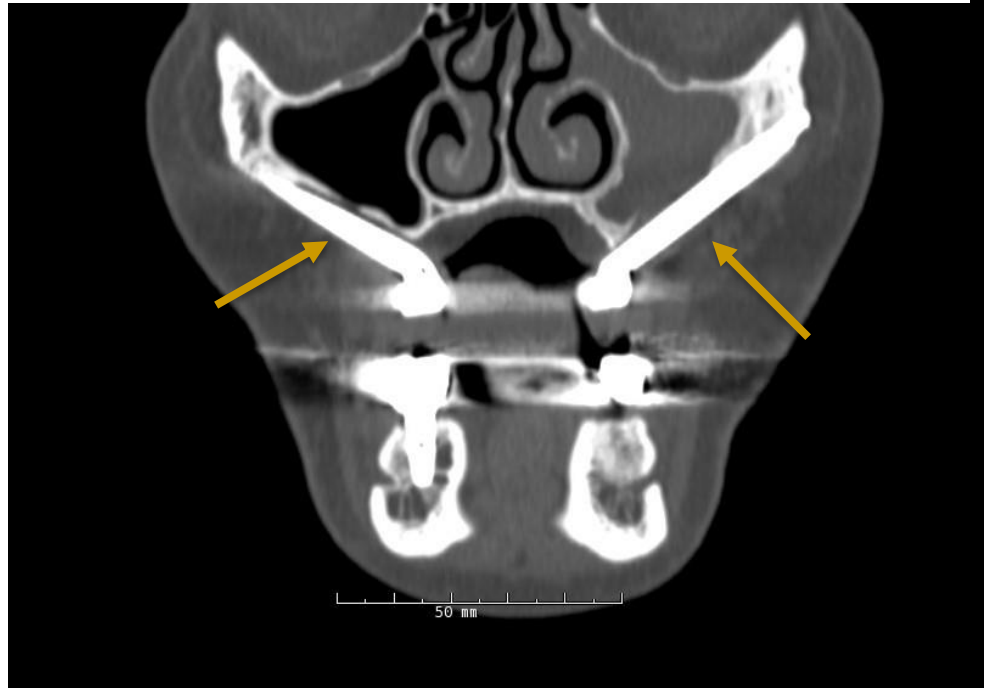
Recalcitrant Maxillary Sinusitis: Dental



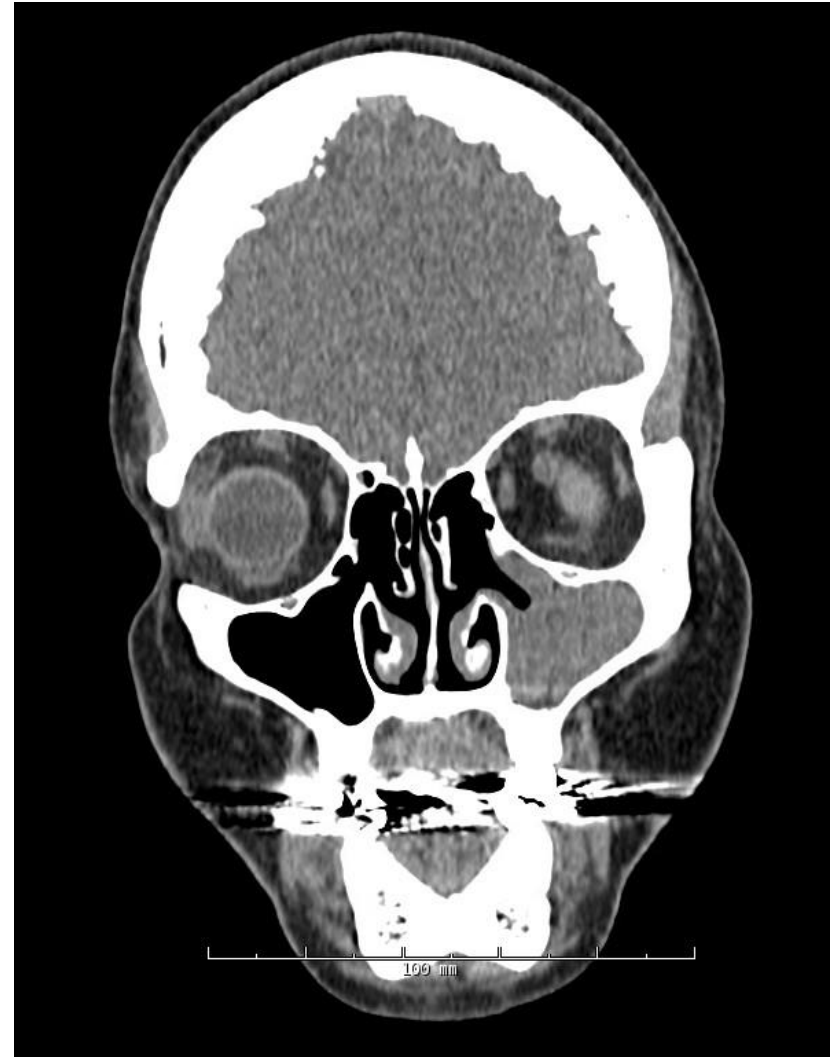
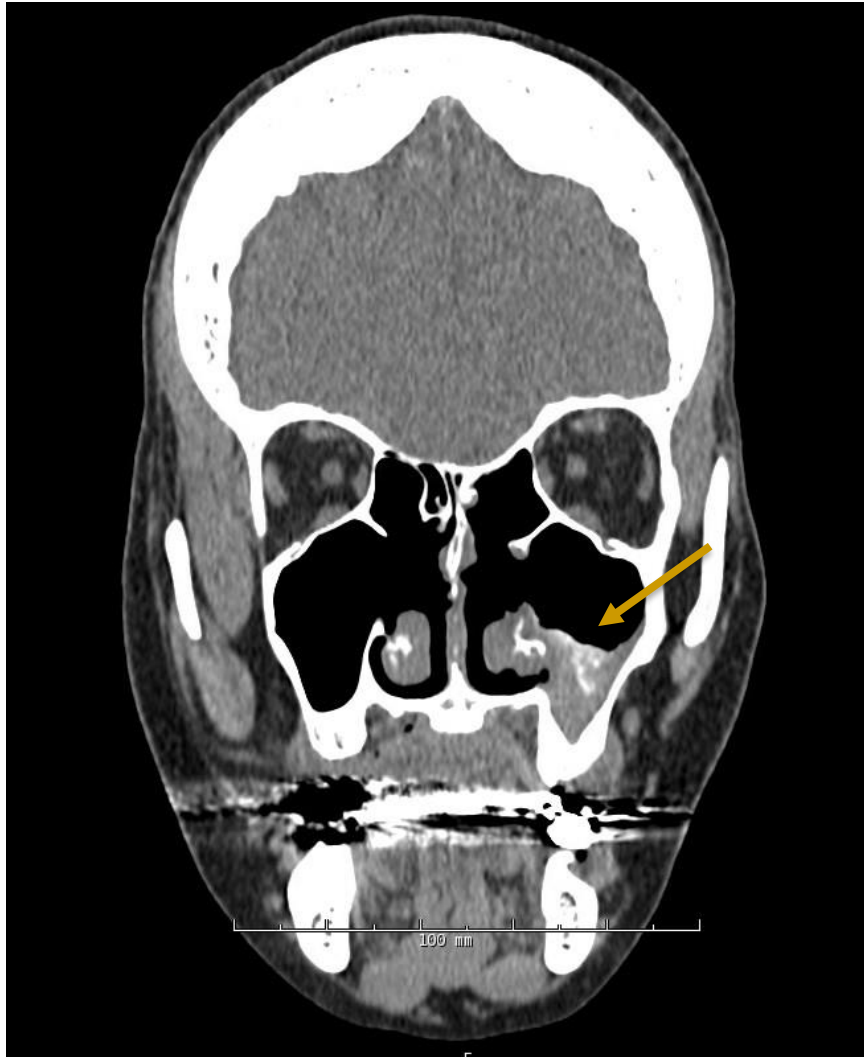
Recalcitrant Maxillary Sinusitis: Implants

Modified endoscopic medial maxillectomy for zygomatic implant salvage

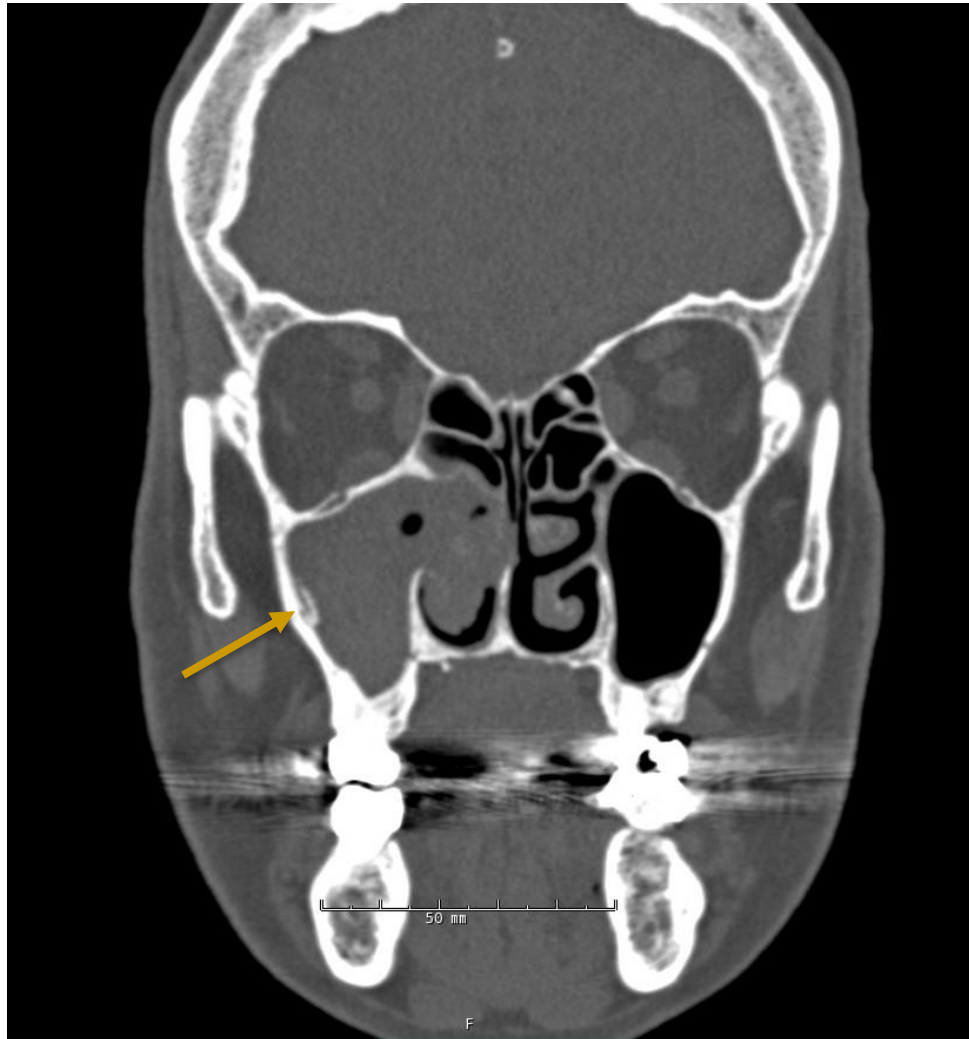
Joseph S. Schwartz, M.D., F.R.C.S.C.,^{1,2} Bobby A. Tajudeen, M.D.,^{2,3} Nithin D. Adappa, M.D.,²
and James N. Palmer, M.D.²



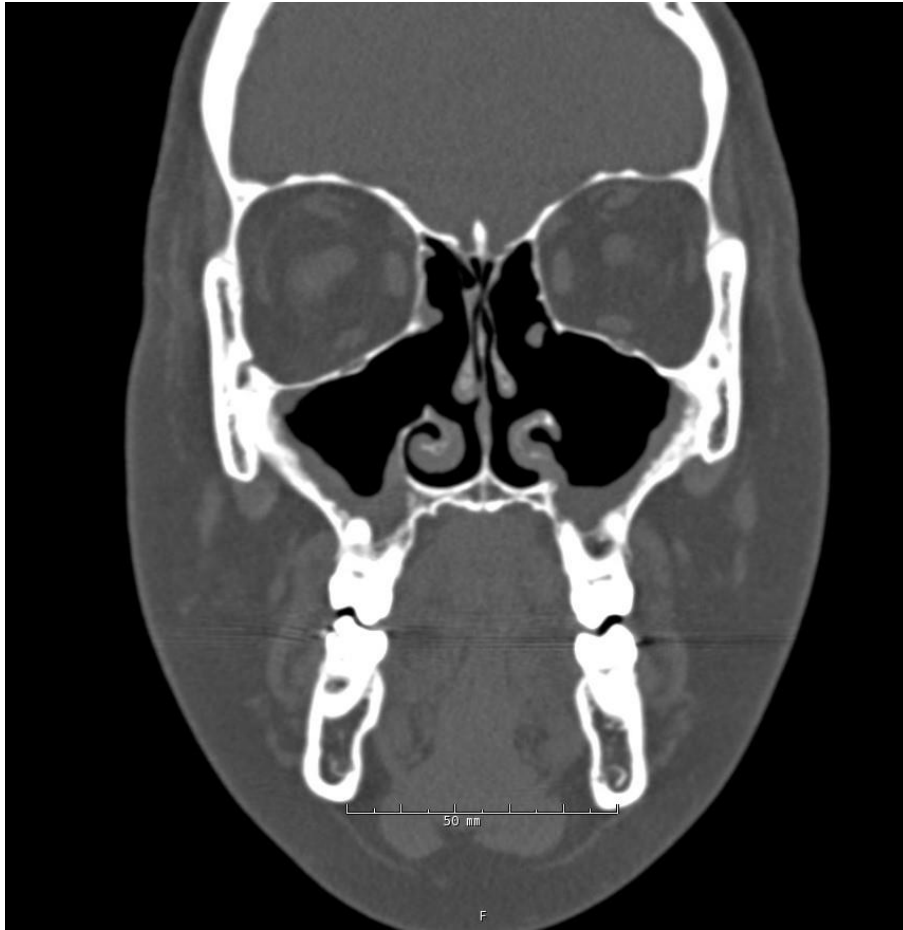
Recalcitrant Maxillary Sinusitis: Fungal



Recalcitrant Maxillary Sinusitis: Tumor



Dysfunctional Maxillary Sinus

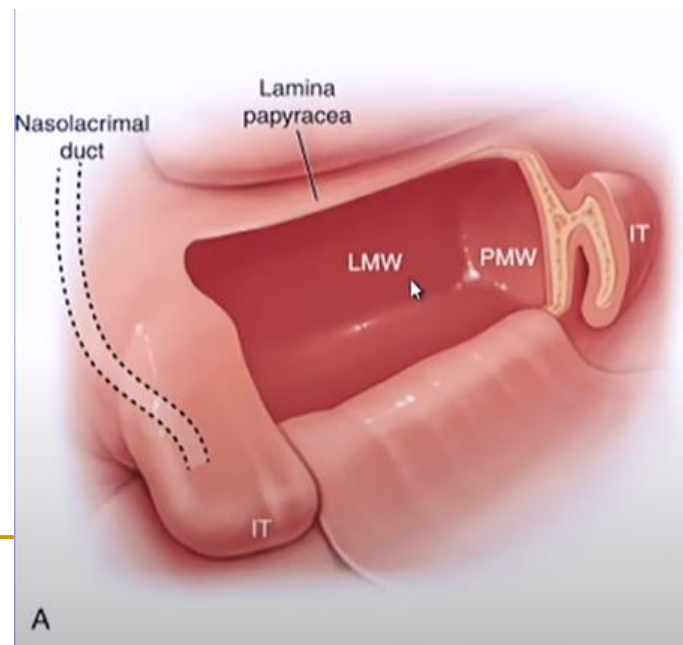
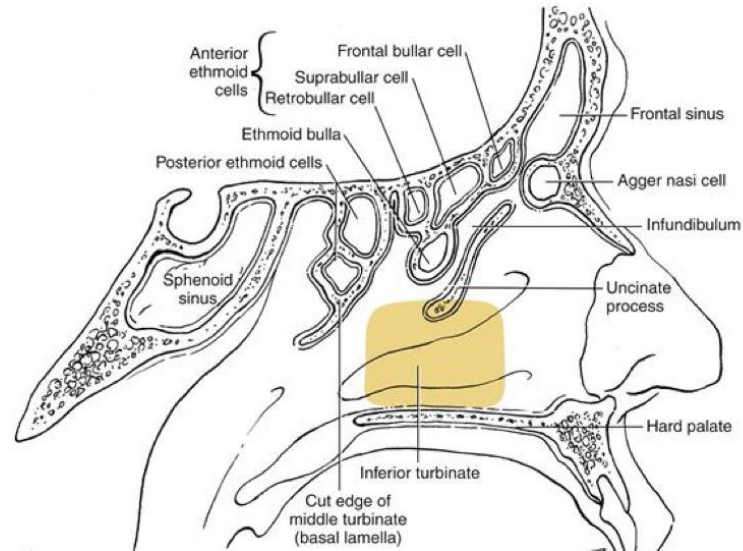


Surgery for Recalcitrant Maxillary Sinusitis: Endoscopic Medial Maxillectomy

- **Adaptation of the open maxillectomy**
 - Removal of portion of the medial maxillary wall to gain wide access to the maxillary sinus
- **Indications**
 - Removal of benign tumors
 - Treatment of refractory chronic maxillary sinusitis
 - Select malignancy
- Varies in extent of resection given nature of disease
 - Nasolacrimal duct
 - Inferior pyriform aperture (Denker's approach)

Anatomical Considerations

- Inferior turbinate
- Uncinate process
- Natural maxillary os
- Posterior maxillary wall (perpendicular plate of the palatine bone)
- Nasal floor
- Lacrimal bone
- Pyriform aperture

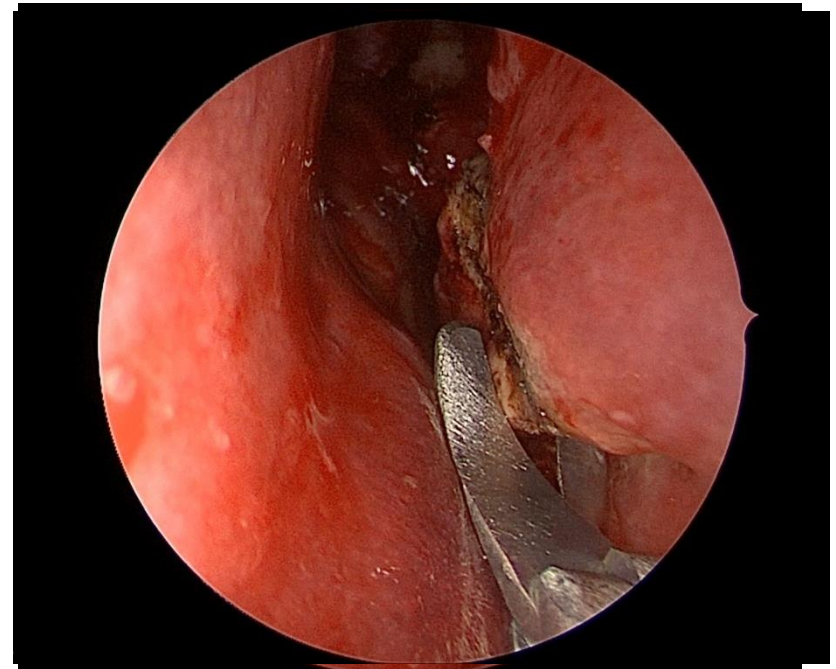


Surgical Procedure

- **Step 1. Perform maxillary antrostomy with complete removal of uncinate**
 - Natural os connected to surgical os (70 deg scope)

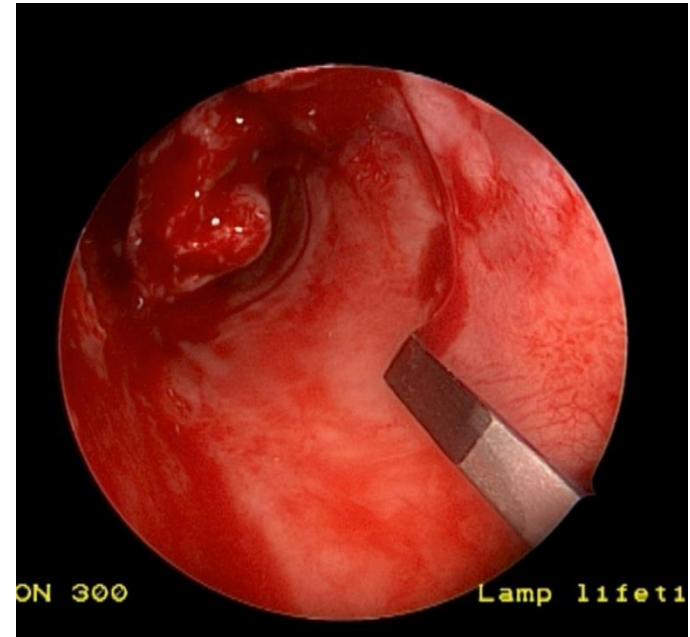
Surgical Procedure

- **Step 2. Resect inferior turbinate with preservation of the posterior and anterior 1/3**
 - Crush inferior turbinate with curved hemostat (decrease blood supply)
 - Or use bipolar
 - Use endoscopic turbinate scissors to cut along path
 - Leave posterior stump
 - Prevents significant potential bleed



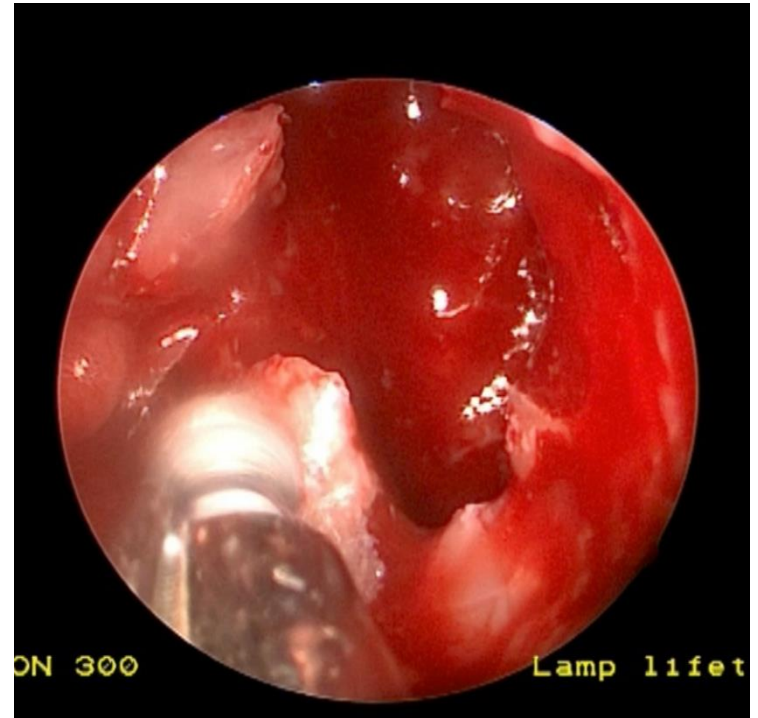
Surgical Procedure

- **Step 3. Create nasal floor mucosal flap (optional)**
 - Curved beaver blade to make anterior vertical incision just posterior to Hasner's valve
 - Posterior vertical incision at vertical portion of palatine bone
 - Connect incisions with straight blade and elevate flap extending onto nasal floor, ending at base of septum
 - Floor flap generally only used if exposed bone is present after drilling

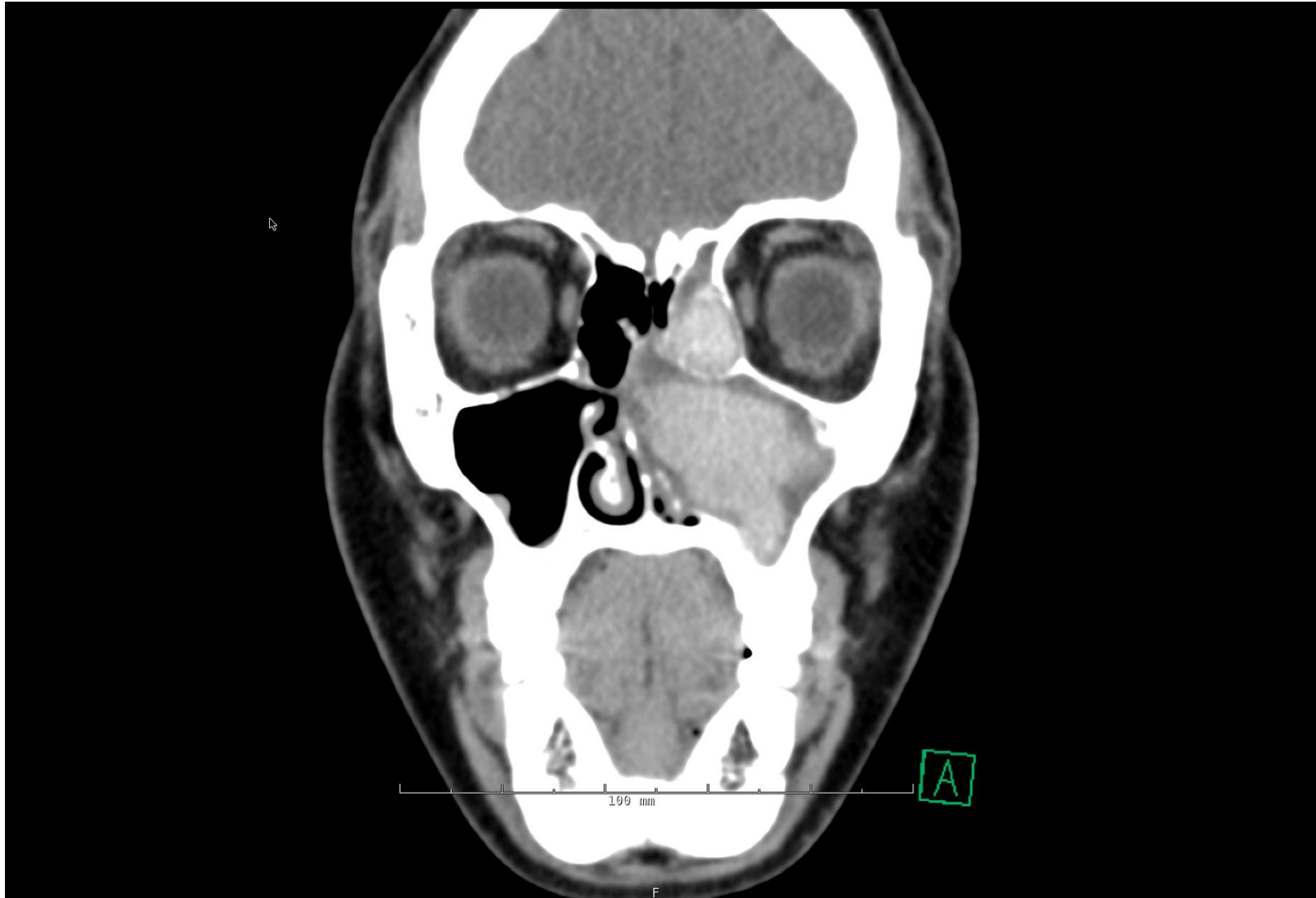


Surgical Procedure

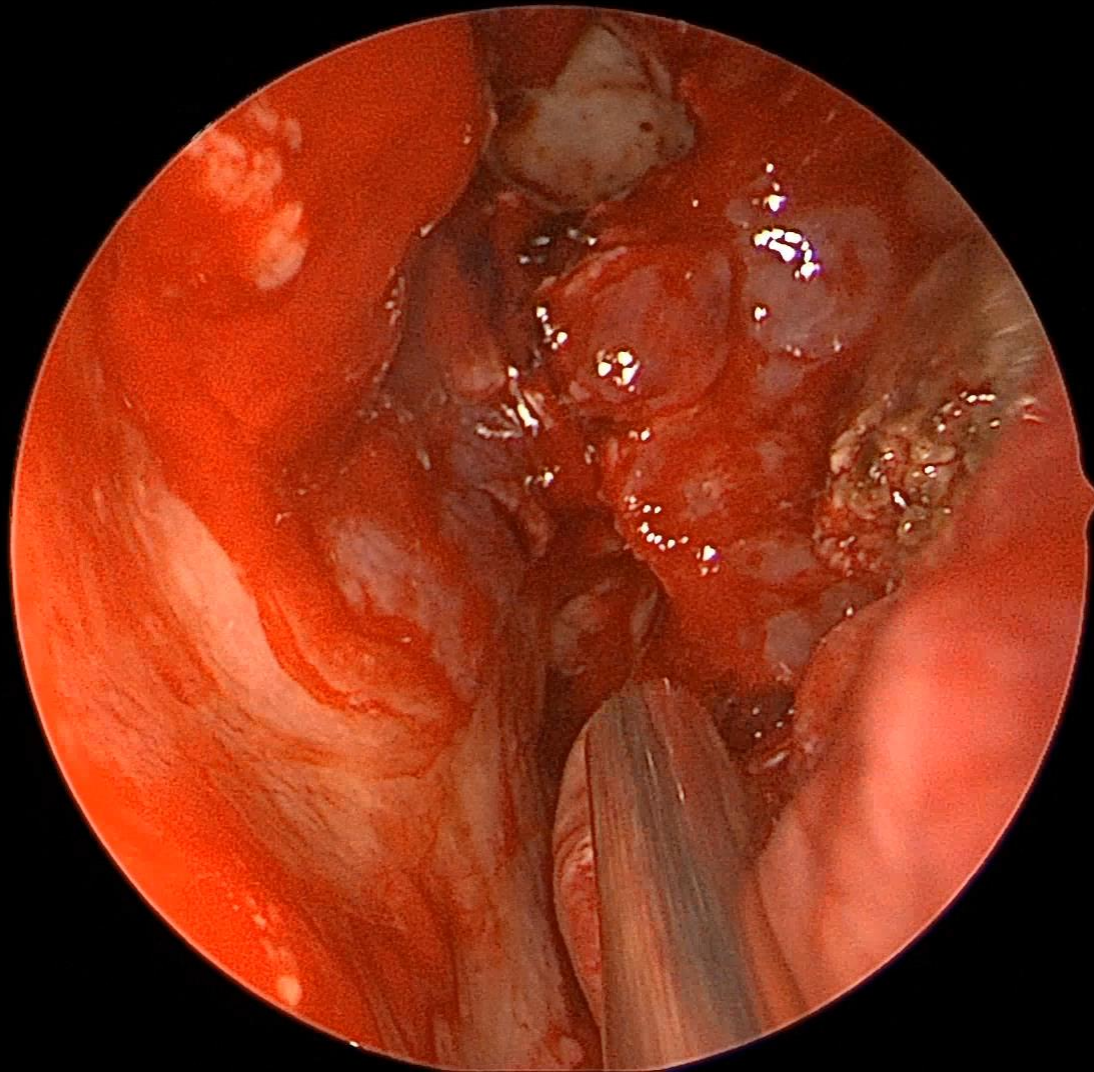
- **Step 4. Resect medial maxillary wall**
 - Hand instrumentation (downbiter, backbiter, straight through cut) initially followed by high speed drills
 - Additional anterior exposure with resection of medial maxillary wall below Hasner's valve
 - For additional wide anterior exposure
 - Resect nasolacrimal duct
 - Resect inferior piriform aperture (Denker's)



Full Length Surgery



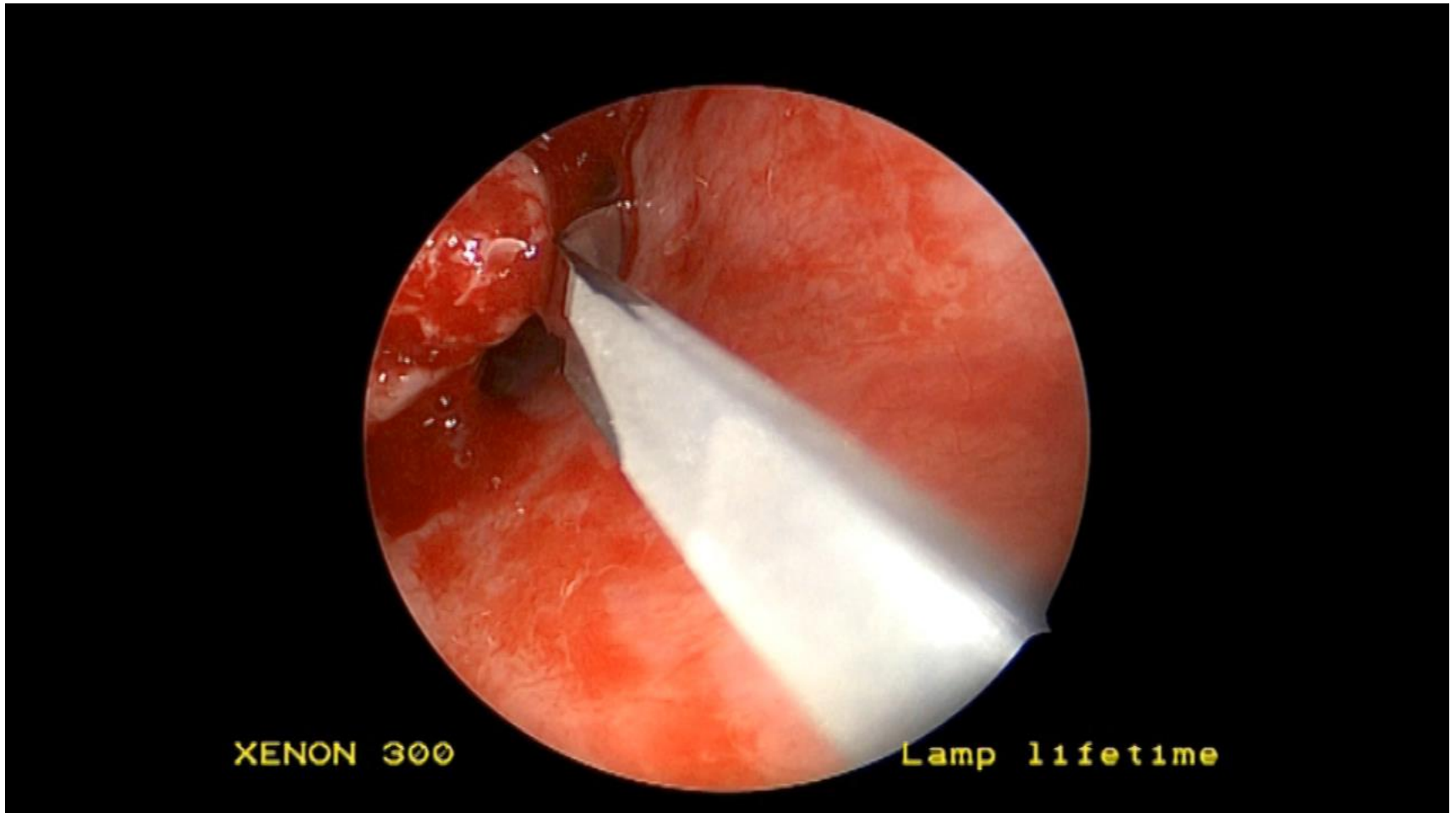
Full Length Surgery



Intensity 100 %

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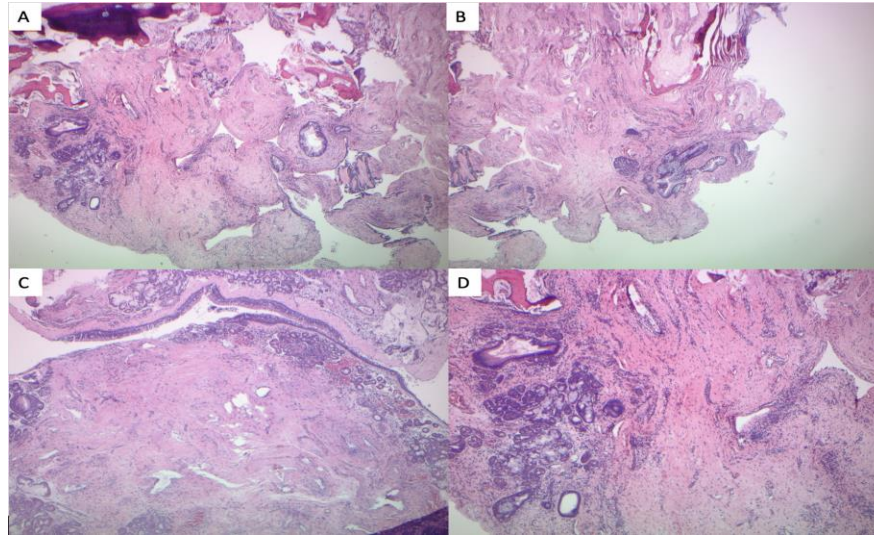
Nasal floor flap



Evidence for Dysfunctional Maxillary Sinusitis?

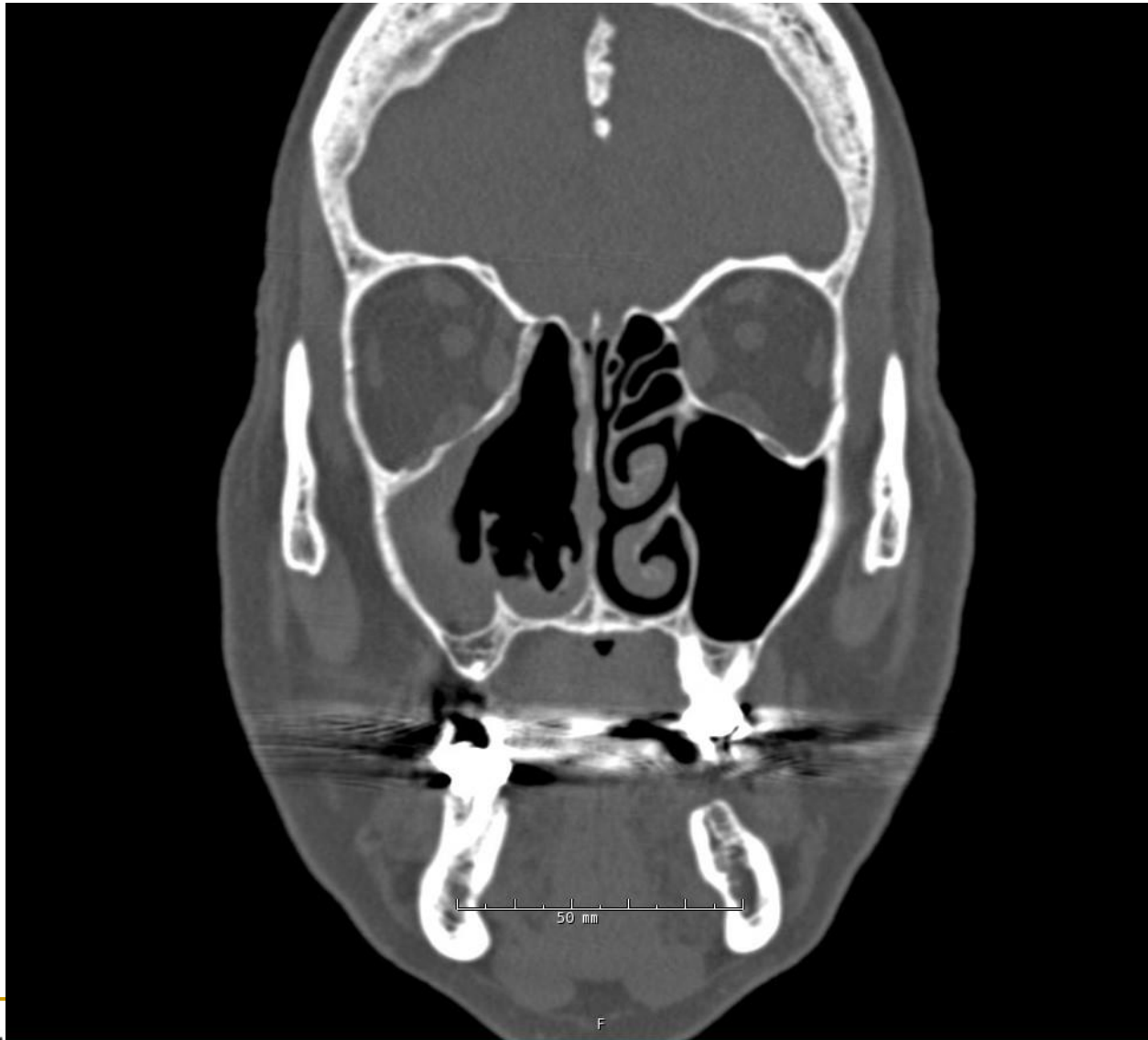
Histopathologic evidence of dysfunctional sinonasal mucosa in patients undergoing modified endoscopic medial maxillectomy for recalcitrant maxillary sinusitis.

Vidit Talati, MD, MS¹, Ali M. Baird, BS², Paolo Gattuso, MD³, Mary Allen-Proctor, MD³, Peter Filip, MD¹, Peter Papagiannopoulos, MD¹, Pete Batra, MD¹, Bobby A. Tajudeen, MD¹



Variable		Maxillary antrostomy (n=464)	MEMM (n=41)	p-value
Overall degree of inflammation	None	2 (0.4%)	0 (0.0%)	0.915
	Mild	180 (38.8%)	15 (36.6%)	
	Moderate	218 (47.0%)	19 (46.3%)	
	Severe	64 (13.8%)	7 (17.1%)	
Eosinophils/HPF	<5	230 (49.6%)	27 (65.9%)	0.080
	5-10	51 (11.0%)	5 (12.2%)	
	>10	183 (39.4%)	9 (22.0%)	
Neutrophil infiltrate	Absent	414 (89.2%)	37 (90.2%)	0.839
	Present	50 (10.8%)	4 (9.8%)	
Inflammatory predominance	Lymphoplasmacytic	318 (68.5%)	34 (82.9%)	0.421
	Lymphocytic	68 (14.7%)	4 (9.8%)	
	Neutrophilic	1 (0.2%)	0 (0%)	
	Eosinophilic	52 (11.2%)	2 (4.9%)	
	Mixed	25 (5.4%)	1 (2.4%)	
Basement membrane thickening	Absent	318 (68.5%)	31 (75.6%)	0.396
	Present	146 (31.5%)	10 (24.4%)	
Subepithelial edema	Absent	344 (74.1%)	31 (75.6%)	0.905
	Present	120 (25.9%)	10 (24.4%)	
Hyperplastic papillary changes	Absent	428 (92.2%)	39 (95.1%)	0.551
	Present	36 (7.8%)	2 (4.9%)	
Mucosal ulceration	Absent	449 (97.0%)	41 (100%)	0.256
	Present	14 (3.0%)	0 (0%)	
Squamous metaplasia	Absent	370 (79.7%)	29 (70.7%)	0.147
	Present	94 (20.3%)	12 (29.3%)	
Fibrosis	Absent	394 (84.9%)	27 (65.9%)	0.002
	Present	70 (15.1%)	14 (34.1%)	
Fungal elements	Absent	439 (94.6%)	30 (73.2%)	<0.001
	Present	25 (5.4%)	11 (26.8%)	
Charcot-Leyden crystals	Absent	434 (93.5%)	37 (90.2%)	0.420
	Present	30 (6.5%)	4 (9.8%)	
Eosinophil aggregates	Absent	370 (79.7%)	37 (90.2%)	0.103
	Present	94 (20.3%)	4 (9.8%)	

Most Challenging Patient...What to do?



Thanks!



Questions?