

Therapeutic Options in the Management of Diffuse Sinonasal Polyposis

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Nasal Polypi

What is Diffuse Sinonasal Polyposis ?

Nasal Polypi

Kennedy 1992

Diffuse Sinonasal Polyposis

Bilateral extensive sinonasal polypoid pathology
extending beyond the middle meatii

Diffuse Sinonasal Polyposis



Grading of Nasal Polypi (Davos 1996)

- Grade 1: polyps restricted to the middle meatus
- Grade 2: polyps extend below the middle turbinate
- Grade 3 : *massive polyposis that occlude the entire nasal cavity* → **DSNP**

Nasal Polypi

Attempt to Stratify Nasal Polypi (Stammberger 1997)

- Group I : Antrochoanal Polyp
- Group II : Choanal Polyp
- Group III : Polyps associated with CRS /
Non - eosinophil dominated
- **Group IV : Polyps associated with CRS /
Eosinophil dominated**
- Group V : Polyps associated with Cystic Fibrosis,
Neoplasms

What is DSNP?

Diffuse Sinonasal Polyposis DSNP

Grade 3 Nasal Polypi

Group IV : Polyps associated with CRS Eosinophil
dominated

DSNP

Diffuse Sinonasal Polyposis DSNP

Allergic Polypi

Nasal Polypi

DSNP

- Usually associated with bronchial hyperreactivity and asthma
- Polyps show dense infiltration with eosinophils

Diffuse Sinonasal Polyposis

- Overall prevalence of nasal polypi is 1% - 4% in the general population
- In patients with asthma the prevalence is 7% to 15%
- DSNP is the commonest type of sinonasal polyps usually encountered
- Commonest site of origin is the narrow clefts of the nasal meati and ethmoids

DSNP

Interesting Associations

- One patient out of every 3 patients with DSNP suffers from Asthma
- One patient out of every 10 patients with DSNP suffers from ASA intolerance
- 50% of patients with DSNP and Asthma suffer from ASA intolerance

DSNP

Etiology ?

Genetic factors

Epithelial Rupture

Bernoulli Phenomena

Autonomic dysfunction

Abnormal ion & Fluid Transport

Mucosal contact

Allergy

Staph Superantigen

Arachidonic Acid Metabolism Error

Airway Hyperactivity

Fungus

Biofilms

Nasal Polypi

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Etiology

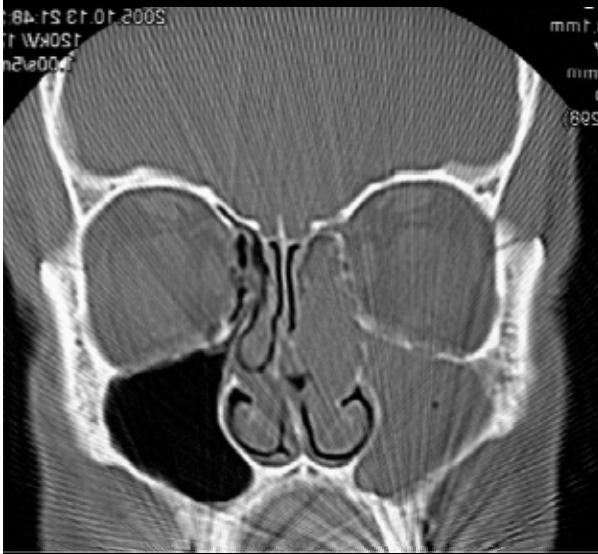
- Multifactorial
- A chronic inflammatory process
- Eosinophils is the most prominent component of the inflammatory cellular infiltrate

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Diagnostic Evaluation

- Endoscopic examination
 - CT scan





Inverted Papilloma



Allergic Fungal Rhinosinusitis

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Treatment

- Remains to be a significant challenge (recurrence rate after surgery range from 8%-66%)
- Current therapeutic modalities provide temporary control rather than cure

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Treatment

- Medical treatment is still the mainstay of management
- Surgery is still required in a significant percentage of patients as an **adjunctive measure**

DSNP

Medical Treatment

- Long Term Topical Corticosteroids
- Short Bursts of Oral Corticosteroids
 - Antileukotrienes
 - Other Medications :
 - Antihistamines - Macrolides
 - Antifungals - Lyseine Aspirin
 - Furosemide - Capsaicin

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Topical Corticosteroids

The best documented type of treatment
for nasal polyps

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Topical Corticosteroids

Lildholt	1995	budenoside
Holmberg	1997	fluticasone propionate beclomethasone dipropionate
Lund	1998	fluticasone propionate beclomethasone dipropionate
Penttila	2000	fluticasone propionate
Hadfield	2000	betametasone

Topical Corticosteroids

Effect on DSNP

- Improves nasal blockage and reduce polyp size
(Level I evidence)
- May minimize or delay recurrence after surgery
(Level I evidence)
- Least beneficial in patients with hyposmia / anosmia

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Topical Corticosteroids

Forms

- Spray
- Drops
- Powder

Topical Corticosteroids

Indications in DSNP

- Used as the primary treatment in mild and moderate cases
- Combined with bursts of systemic steroids and/or surgery in severe cases
 - Given postoperatively to delay polyp recurrence

Topical Corticosteroids

Duration of Treatment in DSNP

Indefinitely

Topical Corticosteroids

Spray versus Drops

- Intranasal steroid drops more efficient in reaching the upper part of the nose and middle meatus than sprays
- Intranasal steroid drops have a more potent action than spray
- Intranasal steroid drops have a higher systemic absorption level



In a blocked nose
Inadequate Intranasal distribution



Initial Treatment
Systemic steroid burst and/or surgery

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Systemic Corticosteroids

Indications

- Short bursts in severe cases to open the airway
- Intermittently, in refractory hyposmia /anosmia patients
- In the pre and postoperative periods in patients undergoing surgery

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Systemic Corticosteroids

Effects

- Reduction of polyp size
(level III evidence)
- Improves blockage
 - Improves smell

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Antileukotrienes

Effect

- May have a beneficial effect in some patients
- Mechanism of action not definitely known
- High safety

Surgery in DSNP

- Adjunctive measure in the treatment plan
- Required in a significant percentage of DSNP patients

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Factors Favoring Surgery

- Need of > 4 bursts of systemic corticosteroid / year
 - Inadequate response to medical treatment
 - Massive disease with contraindication to corticosteroid use

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Avoid Surgery

If the patient's primary complaint is hyposmia/anosmia

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Choice of Surgical approach for DSNP

- Polypectomy
- Ethmoidectomy
- Sphenoethmoidectomy

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Concepts of Surgery in DSNP

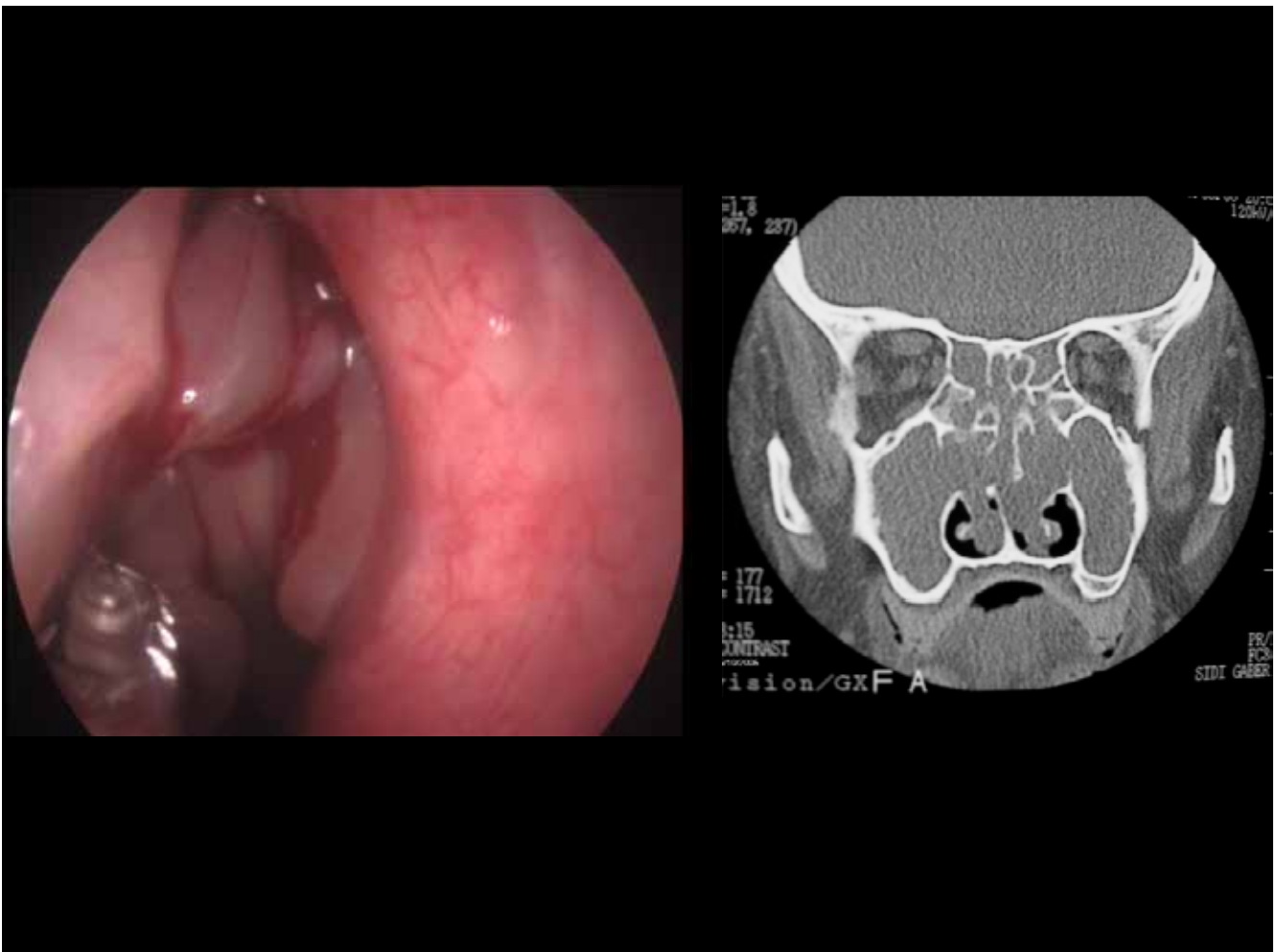
- Functional approach with mucosal preservation (Kennedy)
 - Radical approach with mucosal excision “Nasalisation” (Klossek, Jankowski)

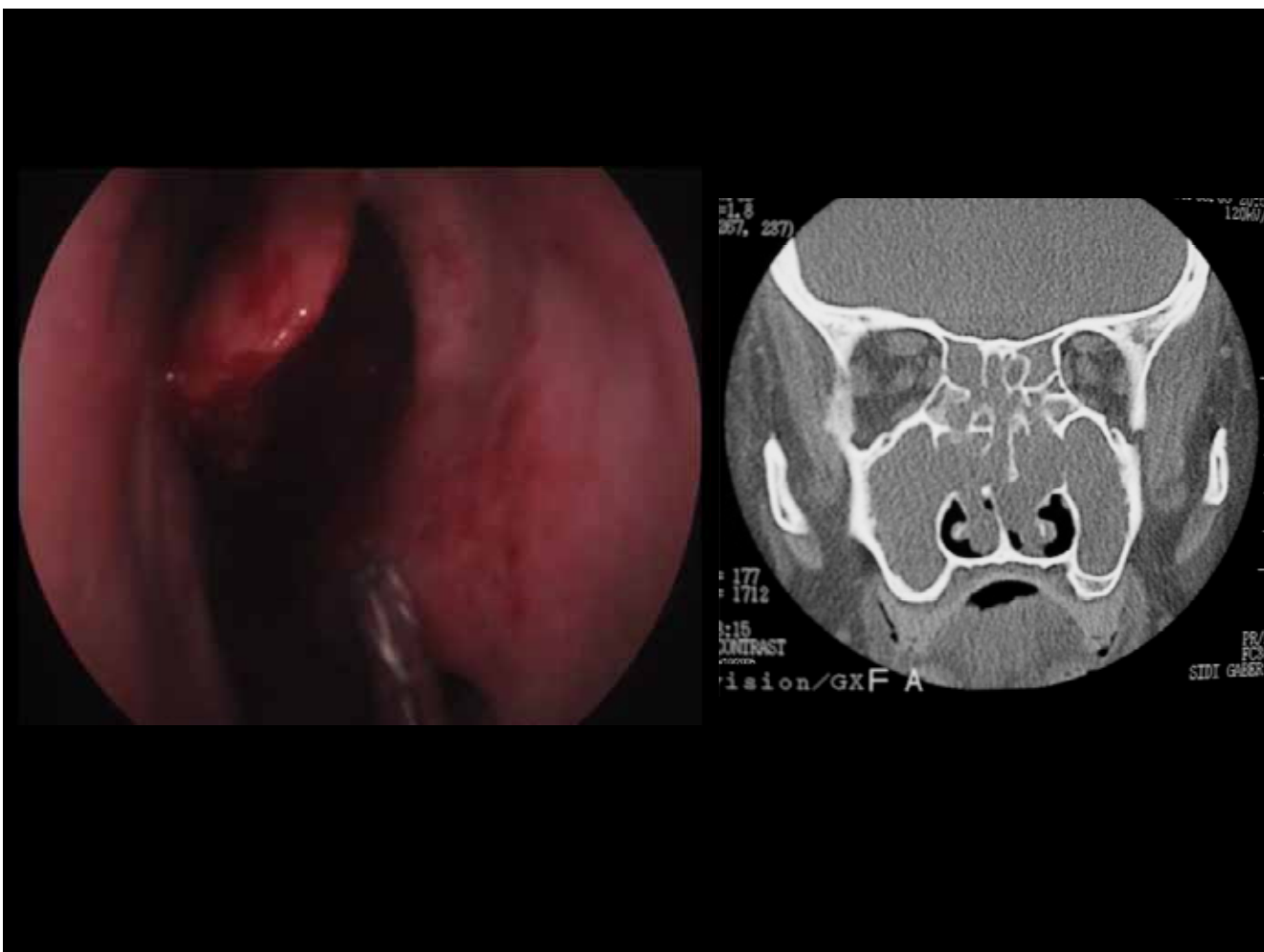
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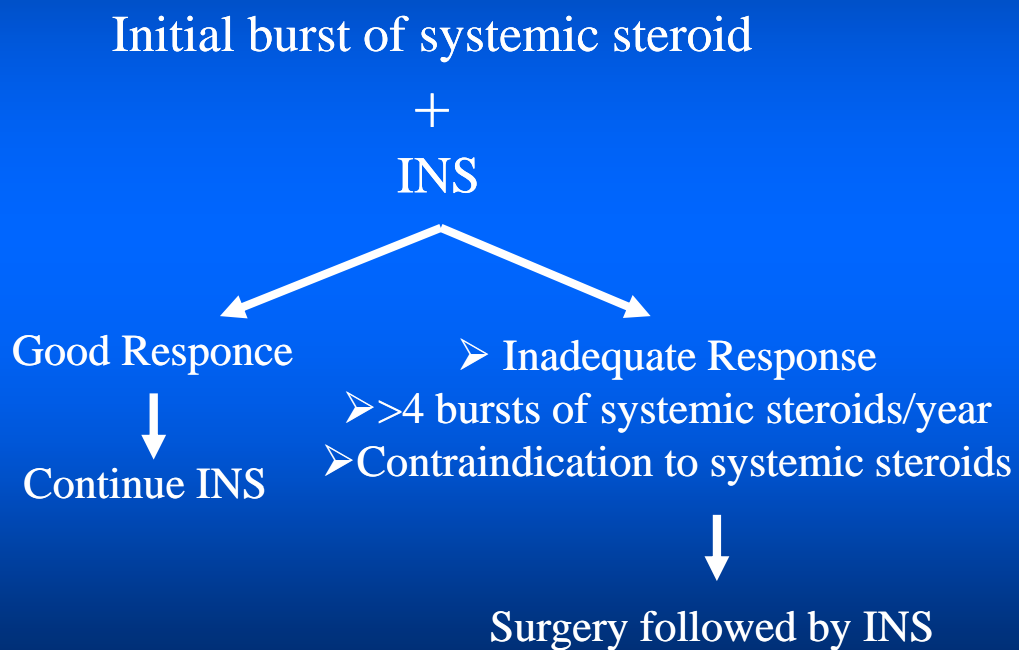
Potential Benefit of Surgery in DSNP

- Restoration of the nasal airway
- Minimize the need for systemic steroids





DSNP Treatment Strategy



DSNP

Conclusions

- Medical treatment is still the mainstay of management
 - Short term systemic steroids with long term topical steroids are the most effective medications
- Surgery is still required in a significant percentage of patients as an adjunctive measure
 - The patient should be counseled in regards the nature of his disease and its need for long term treatment

Thank You