

## 10<sup>th</sup> Jakarta International FESS Course-Workshop

# Certificate of Attendance

This is to certify that

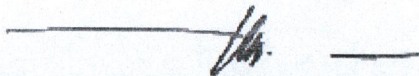
**Dr. Sukri Rahman, Sp.THT-KL**

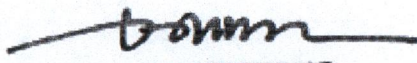
Has Participated  
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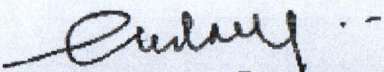
10<sup>th</sup> Jakarta International Functional Endoscopic Sinus Surgery Course - Workshop


Jakarta, March 7 – 9, 2014

Grand Hyatt hotel

  
Dr. Umar S. Dharmabakti, Sp.THT-KL(K)

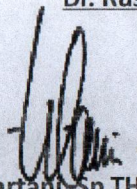
  
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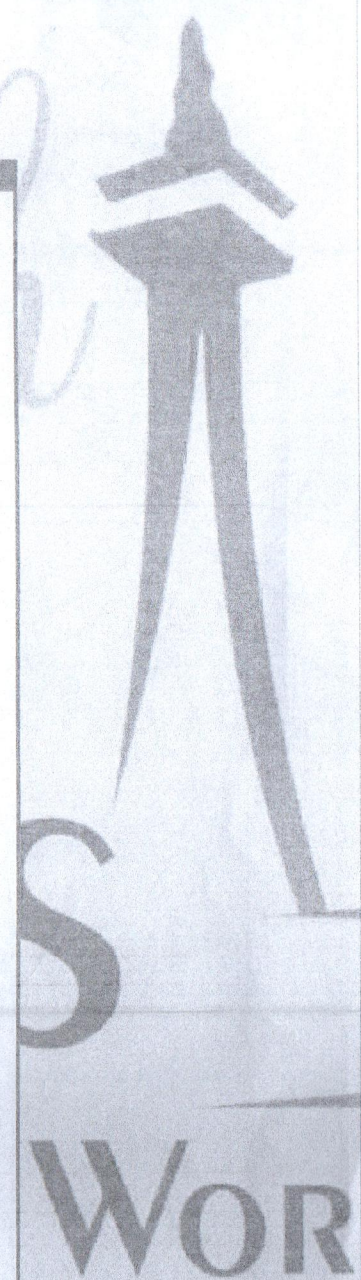
  
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Head of ENT Department Faculty of Medicine  
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Fakultas Kedokteran Universitas Andalas Padang

10<sup>th</sup> Jakarta International FESS Course & Workshop 2014

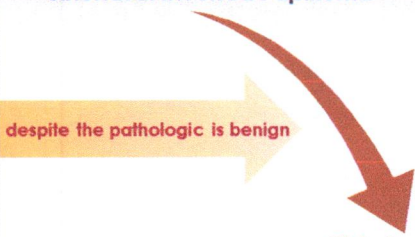
### Endoscopic Management of Sinonasal Inverted Papilloma



Sukri Rahman  
Dept. Otorhinolaryngology Head and Neck Surgery  
Faculty of Medicine, Andalas University  
Padang-Indonesia

### Sinonasal Inverted Papilloma

despite the pathologic is benign



Clinically aggressive  
high rate of recurrence (~ 20%)  
Association with malignancy (5-15%)

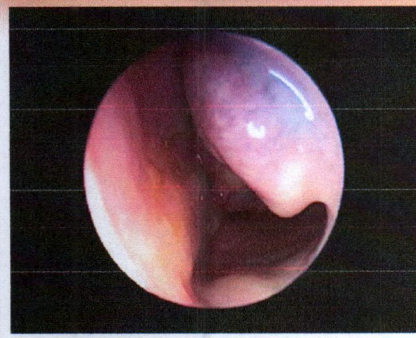
### Sinonasal Inverted Papilloma

- Because of several distinctive clinical characteristics → Aggressive surgical approaches have been used to treat inverted papilloma
- The introduction of endoscopic techniques in sinonasal surgery → clinical studies have demonstrated the effectiveness of endoscopic treatment for inverted papilloma → relatively less invasive

### Case Report & Discussion

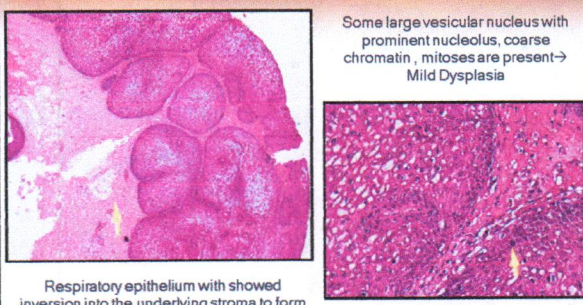
- Female, 43 year old
- Chief complaints of intermittent epistaxis during the last year.
- She also complained progressive unilateral left nasal obstruction.
- Blood mixed nasal discharge
- No visual dysfunction, Ocular motility was normal, without proptosis.
- The general physical examination and chest X-ray was normal

### Nasoendoscopy



- Reddish gray polypoidal mass filling the nasal cavity, irregular, with papillary surface.
- Located lateral to the middle turbinate
- Sometimes clinically difficult to differentiate from other nasal mass / nasal polyp
- bleed when touched

### Histology

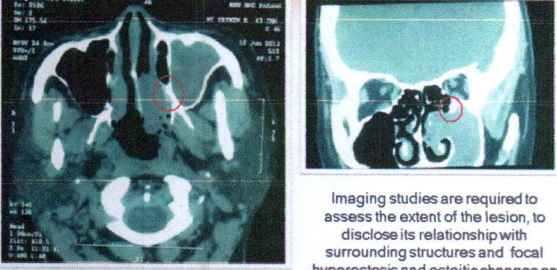


Some large vesicular nucleus with prominent nucleolus, coarse chromatin, mitoses are present → Mild Dysplasia

Respiratory epithelium with showed inversion into the underlying stroma to form islands → inverted papilloma



### CT-Scan



Imaging studies are required to assess the extent of the lesion, to disclose its relationship with surrounding structures and focal hyperostosis and osteitic changes on CT may be considered reliable predictors of tumor origin.

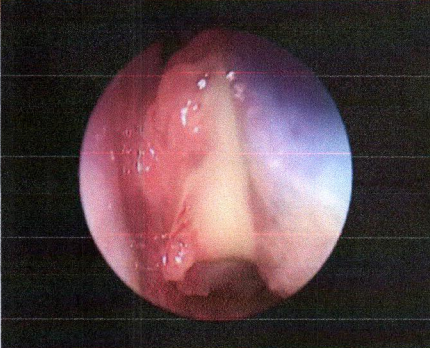
Focal hyperostosis on CT corresponded to the actual tumor origin in 89.1% of cases (Lee JK et al. Am J Neuroradiol 2007;28)

### Diagnosis

```

    graph TD
      A[Diagnosis] --> B[Left sinonasal inverted papilloma Krause T2]
      B --> C[Krause T2  
Tumor involving Osteomeatal complex, ethmoid sinus and/or medial portion of maxillary sinus.]
      C --> D[scheduled for surgery]
      D --> E[Endonasal endoscopic medial maxillectomy]
    
```

### Surgery



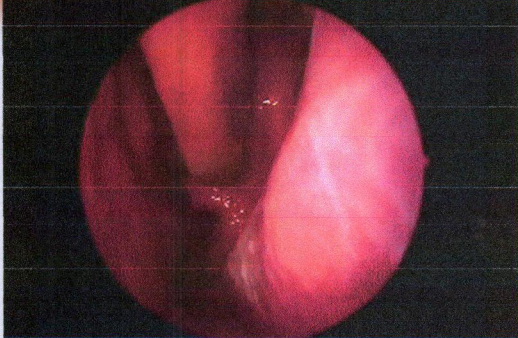
### Radiographic and Histologic Analysis of the Bone Underlying Inverted Papillomas

Alexander G. Chiu, MD, Alexis H. Jackman, MD, Marcelo B. Antunes, MD, Michael D. Feldman, MD, PhD, James N. Palmer, MD

- Histologic & Radiographic analysis clearly demonstrated an inflammatory reaction within the bone underlying an Inverted Papilloma
- Immature bone that may form not only lessens a barrier of protection against an erosive lesion, but also form crevices in which mucosal epithelium may become embedded → tumor recurrence

Laryngoscope 2006;116:1617-20

### Follow-up



### European Position Paper on Endoscopic Management of Tumours of the Nose, Paranasal Sinuses and Skull Base

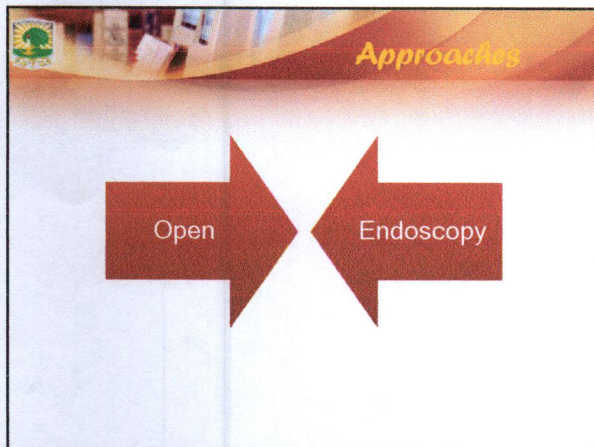
#### Follow-up

```

    graph TD
      A[Inverted Papilloma] --> B[Follow-up for minimum 3 years]
      B --> C[Endoscopy]
      C --> D[Frequency and duration of follow-up depends on:  
Aggressive behaviour  
Concern about surgical clearance  
Previous surgery  
Histology  
dysplasia, ca in situ, multicentric disease]
      C --> E[Imaging is not routinely performed unless areas of concern, inaccessible to office examination]
      E --> F[MRI]
    
```

Rhinol Suppl 2010;22:1-143





**ORIGINAL RESEARCH**

**Endoscopic Resection of Sinonasal Inverted Papilloma: A Meta-analysis**

Jose M. Busquets, MD, and Peter H. Hwang, MD, Portland, Oregon

- Meta-analysis → comprehensive literature review 49 articles → 1752 kasus
- Compare success rates of endoscopic versus nonendoscopic tumor resection techniques, recurrence rate:
  - Historical (1970-1992) → Nonendoscopic = 19%
  - Contemporary (1992-2004) = Nonendoscopic vs Endoscopic = 20% vs 12%
- Recurrence >> first 2 years, may be seen at 5 to 6 years posttreatment
- Overall rate of malignancy : 6,6%

Otolaryngol Head Neck Surg 2006;134:476-82

**Endoscopic approach advantages**

- Excellent illumination and magnification
- Ability to visualize around lesions or around corners
- Lack of a facial incision
- Decreased crusting
- Decreased resection of healthy tissue
- Decreased facial swelling
- Decreased postoperative pain
- Decreased incidence of epiphora
- Decreased bleeding

**Exclusive endoscopic approach contraindication**

- Massive involvement of the frontal sinus and/or of a supraorbital cell
- Intradural extension or transorbital extension
- Concomitant presence of a malignancy involving critical areas
- Presence of abundant scar tissue from previous surgery

Piero Nicolai, Paolo Castelnuovo, N Thapa

**Conclusion**

- Endoscopic resection → reliable alternative → lower recurrence rate, reduce complication
- The key points of this operation →
  - dissecting the involved mucosa.
  - Identification origin of the tumor and bony removal of the region.

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### Indikasi pendekatan operasi

1. Endonasal non endoskopi → rekurensi >> 20-100%
2. Pendekatan Ekterna terbatas (spt : Caldwell-Luc): rekurensi >>
3. Pendekatan Eksternal radikal (maksilektomi medial/ midfacial degloving) → selama ini dianggap sbg "gold standard" → morbiditas >>
4. Endonasal Endoskopi → minimal invasif

### Focal Hyperostosis on CT of Sinonasal Inverted Papilloma as a Predictor of Tumor Origin

**ORIGINAL RESEARCH**  
 D.K. Lee  
 S.K. Chang  
 H.-J. Ohng  
 H.Y. Kim  
 H.-J. Kim  
 W.M. Rhee

**BACKGROUND AND PURPOSE:** To evaluate the CT characteristics of focal hyperostosis in patients with sinonasal inverted papilloma and to correlate these characteristics with the detection of the origin of tumors.

**MATERIALS AND METHODS:** Retrospectively analyzed 35 patients with sinonasal inverted papilloma to detect areas within which there were focal hyperostosis. We compared the sites of the CT scans within which there was focal hyperostosis with the origin of the tumors described in the

- Adanya hiperostosis fokal pada CT scan, 89,1% merupakan asal tumbuh tumor pada temuan saat operasi.
- Kesimpulan : Adanya hiperostosis fokal dapat sebagai prediksi preoperatif, asal tumbuh tumor.

Am J Neuroradiol 2007;28:618-21

### Type of Endoscopic Resection

P Nicolai, P Castelnovo

**Type I resection**  
 is indicated for inverted papillomas involving the middle meatus, ethmoid, superior meatus, sphenoid sinus, or a combination of these structures; even lesions protruding into the maxillary sinus without direct involvement of the mucosa are amenable to this approach.

**Type II resection**  
 which corresponds to an endoscopic medial maxillectomy, is indicated for tumors originating within the nasoethmoidal complex and secondarily extending into the maxillary sinus or for primary maxillary lesions not involving the anterior and lateral walls of the sinus itself. The nasolacrimal duct can be included in the specimen to increase the exposure of the anterior part of the maxillary sinus.

**Type III resection**  
 also known as the Sturman-Canfield operation or endonasal Denker operation, entails removal of the medial portion of the anterior wall of the maxillary sinus to enable access to all the antrum walls. It is therefore recommended for inverted papillomas extensively involving the anterior compartment of the maxillary sinus.

### Staging

TABLE I.  
 Krouse Staging System for Inverted Papilloma (2000).<sup>3</sup>

T1	Confined to the nasal cavity
T2	Ostiomeatal complex region, ethmoid, or medial maxillary involvement (with or without nasal cavity involvement)
T3	Any wall of maxillary sinus but medial, frontal sinus, or sphenoid with or without T2 criteria
T4	Any extrasinus involvement or malignancy


Laryngoscope 2000;110:965-8

### Han Staging

Han Staging System for Inverted Papilloma (2001).<sup>5</sup>

Group I	Limited to nasal cavity, lateral nasal wall, medial maxillary sinus, ethmoid sinus, and sphenoid sinus
Group II	Extension lateral to medial maxillary wall with or without group I criteria
Group III	Extension into frontal sinus
Group IV	Extension outside sinuses





### Cannady Staging

Staging proposed by Cannady SB et al

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Group A	Inverted papilloma confined to the nasal cavity, ethmoid sinuses, or medial maxillary wall
Group B	Inverted papilloma with involvement of any maxillary wall (other than the medial wall), or frontal sinus, or sphenoid sinus
Group C	Inverted papilloma with extension beyond the paranasal sinuses

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Inverted papilloma with malignancy should be staged according to American Joint Committee on Cancer guidelines.