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Dear Dr.
Tarek S. Jamal, Mohieddin Mandura, Kamal Daghistani

This confirms receipt of your manuscript entitled :
Nasal Inverted Papilloma with Pituitary Papillary Adenocarcinoma (Case Presentation)

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The Editor

CLINICAL RECORD

FIRST PRESENTATION

NASAL INVERTED PAPILLOMA

WITH

PITUITARY PAPILLARY ADENOCARCINOMA

BY:

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INTRODUCTION:

Nasal inverted papilloma is a relatively rare benign tumor. It has a characteristic feature that the epithelium inverts into the underlying stroma and the lesion is endophytic rather than exophytic. It is almost exclusively a lateral nasal wall lesion with a male preponderance. Reccurence rates have been reported to be from 28% to 67% (Norris et al., 1963& Ridolfi et al., 1977) and the rates of association with malignancy range from 3& to 32% (Ridolfi et al., 1977 & Myers et al ., 1981) . Malignant transformation of the inverted papilloma to squamous cell carcinoma is much less common than coexistence of the lesion with carcinoma.

Pituitary tumors account for approximately 10% of clinically apparent intracranial neoplasms. These include adenoma, carcinoma, craniopharyngioma and metastatic malignancies. Pituitary carcinoma and metastatic malignancies are very rare compared to adenomas. Metastatic malignancies arise from primaries in the breast, lungs, prostate, colon or thyroid.

We present a case of nasal inverted papilloma in association with pituitary adenocarcinoma. A review of the literature will be presented.

CASE REPORT:

A 62-year-old Saudi male presented to our ENT clinic complaining of left progressive nasal obstruction and frontal headache of 6 months duration. He was known to have chronic obstructive pulmonary disease (COPD) and a smoker for decades, 1 to 2 packs per day. The patient also complained of dysphagia.

He had a history of pulmonary tuberculosis which was treated medically for 1 year.

Examination revealed a left nasal mass which was pale in color and filling the left nasal cavity. The post nasal space was free. Rest of the ENT examination was within normal limits. General examination revealed hepatomegaly, 2-3 cm below costal margin and decreased air entry in the lungs due to COPD. Investigation of the patient revealed the following positive findings:

- CT scan of paranasal sinus showed a soft tissue mass filling left nasal cavity, left maxillary sinus, ethmoid sinuses and left sphenoid sinus. (fig. 1 A&B).
- Ba swallow, for dysphagia- showed evidence of peptic ulcer.
- Biopsy obtained from the nasal mass under local anaesthesia proved to be an inverted papilloma.

Treatment: Functional endoscopic sinus surgery (FESS) carried out under general anaesthesia. The mass was found to occupy the left nasal cavity, left maxillary sinus and sphenoid sinus. Ethmoid sinuses were clear. The roof of the sphenoid sinus was eroded but the dura was intact. This was thought to be due to pressure of the mass against the roof of sphenoid.

Histopathology results came back as inverted papilloma with mild to moderate atypia.

Three months post operatively the patient came back complaining of headaches becoming worse, double vision along with loss of weight. On examination, patient looked cachectic with bitemporal visual field defect, left optic pallor and right VI nerve palsy and reduced visual acuity .Laboratory investigations showed hypopituitarism by low T4,TSH and low cortisol. MRI of the sella tursica, orbits and paranasal sinuses was obtained which showed a large pituitary tumor eroding the anterior clinoid process and dorsum sellae with extension into the hypothalamus masking the infundibulum and optic chiasma. (fig. 2 A&B)

Due to the progressive visual loss and deterioration of consciousness level an urgent craniotomy was performed. A complete removal of suprasellar and prepontine part of the tumor was achieved. The interseller part was subtotally removed. Post operatively, the patient developved diabetes insipidus which was treated by desmopressin. The histopathology report came as a metastatic

papillary adenocarcinoma from upper respiratory airway, lungs or thyroid. Work-up to look for primary was done. It included lungs, thyroid, prostate. They were all negative. During work-up, patient's condition started to deteriorate. He developed septic shock for which he was transferred to ICU. Patient's condition deteriorated further when he developed pneumothorax and DIC and became comatosed until he died.

DISCUSSION:

Nasal inverted papilloma is a rare benign tumor that involve the mucous membranes of the nasal cavity and paranasal sinuses. It constitutes 0.5%-4% of all nasal tumors.[Yu LH ,et al., 2000] It is almost exclusively a lateral nasal wall lesion but may arise from other parts of the nasal cavity.[Batsakis JG,1979] There is a large male predominance. The dominant histological feature of the tumor is intensive proliferation of the tumor epithelium with extensive invasion of the hyperplastic epithelium into the underlying stroma. It shows bone destruction by pressure atrophy without actual infiltration.[Hi H,et al., 1994]

The pathogenesis of inverted papilloma is unknown. The suggested potential factors include allergy, chronic inflammation and viral infections. Viruses and viral material is found in these tumors.[Seshul et al., 1995] Polymerase chain reaction (PCR) using specific primes of human papilloma virus (HPV) 6, 11, 18 and 33 suggest that HPV may be involved in the pathogenesis of inverted papilloma and may cause its malignant transformation.[Hwang et al.,1998] Detection of the host P53 protein and HPV could be clinically useful as tumor markers for lesion with oncogenic potential.[Mirza et al., 1998]

Airborn pollution specially occupational pollution may be an etiological factor since patients with inverted papilloma have higher degree of occupational

exposure to different smokes, dust and aerosols compared to control group.[Deimer et al., 1996] Tobacco smoking may be an etiological factor in inverted papilloma as shown by the epidemiological study done by Dictor.[Dictor et al.,2000]

A major clinical problem of inverted papilloma is multiple recurrences. It occurs in 40%-60% of patients, usually involving spread from a single site to multiple sites owing to metaplasia of the mucosa adjacent to the primary lesion. (Seshul et al., 1995)

There is a strong association between inverted papilloma and squamous cell carcinoma. Malignant transformation of the lesion to squamous cell carcinoma is much less common than coexistence of inverted papilloma with carcinoma.[Mabery et al.,1965 & Benninger et al .,1990] Malignant transformation of inverted papilloma to carcinoma is about 2%-5% and coexistence of the lesion to carcinoma is about 5%-10%.[Mackay et al., 1987]

Inverted papilloma is associated with non sinunasal head and neck carcinoma. This includes labial, oral and laryngeal carcinoma. Tobacco smoking was found to be a common link.[Deitmer et al.,1996]

Pituitary tumors account for approximately 10% of clinically apparent intracranial neoplasm. Pituitary adenoma constitutes the majority. Pituitary carcinomas either primary or metastatic are very rare. Primary carcinoma are most frequently non secretory. Metastatic tumor occurs most frequently with primary tumors of the breast, bronchi, prostate and colon. Those tumors give

symptoms by direct local invasion or by pressure symptoms on surrounding structures (Wass et al.,1995)

In reviewing the English literature no other similar case has been reported ,so this is the first case reporting association of nasal inverted papilloma and pituitary papillary adenocarcinoma.

CONCLUSION:

Sinonasal inverted papilloma is a rare benign tumor. It is characterized by high recurrence rate and association with malignant carcinoma specially squamous cell carcinoma. There is a rare association between inverted papilloma and non sinunasal head and neck carcinoma. This case is presented because of the first association between inverted papilloma and pituitary papillary adenocarcinoma.

REFERENCES:

*Batsakis JG. Tumors of the head and neck. Williams and wilkins baltimore London 1979, pp. 132-137.

*Benninger MS, Roberts JK, Sebek BA, Levine HL, Tucker HM, Lavertu P. Inverted papilloma and associated squamous cell carcinoma. Otolaryngol Head and Neck Surg 1990; 103: 457-461.

*Deitmer T, Wiener C. Is there an occupational etiology of Inverted Papilloma of the nose and sinuses?. Acta Otolaryngol 1996; 116(5): 762-765

*Dictor M, Johnson A. Association of Inverted Sinonasal Papilloma with non-sinonasal Head and Neck carcinoma. Int J. Cancer 2000;85(6): 811-814

*Hi H, et al, Histocytochemistry of Glycoconjugates in Nasal Inverted papilloma. Ann. Otol. Rhinol Laryngol 1994(103) 115-117.

*Hwang CS, Yang HS, Hong MK, Detection of Human Papilloma Virus (HPV) in Sinonasal Inverted Papillomas using Polymerase Chain Reactions (PCR). Am J Rhinol 1998; 12(5): 363-366.

*Mabery TE, Devine KD, Harisson EG. The problems of Malignant Transformation in a nasal Papilloma. Arch Otolaryngol. 1965; 82, 296-300.

*Mackay J.S., Bull TR, Non-Healing Granulomata and Tumors of the nose and sinuses In: Scott-Brown's Otolaryngology, Rhinology Vol. 4, 297-298, Kerr AG., Butterworths 1987.

*Mirza N, Montone K, Sato Y, Kroger H, Kennedy DW, Identification of P53 and Human Papilloma Virus in Schneiderian Papillomas. Laryngoscope 1998; 108 (4 Pt 1): 497-501.

*Myers, E.N., Schramm, V.L. and Barnes, E.L. : Management of Inverted Papilloma of the Nose and Paranasal Sinuses.

Laryngoscope,91:2071-2084,1981

*Norris,H.J.: Papillary Lesions of the Nasal Cavity and Paranasal Sinuses. Part 11: Inverting Papillomas. A Study of 29 Cases. Laryngoscope,73:1-17,1963

*Ridolfi, R.L., Lieberman, P.H. , Erlandson, R.A.,et al,: Schneiderian Papillomas : A clinicopathologic Stydy of 30 Cases . Am J Surg Pathol,1:43-53,1977

*Seshul MJ, Eby TL, Crowe DR, Peters GE, Nasal Inverted Papilloma with Involvement of Middle Ear and Mastoid. Arch. Otolaryngol Head and Neck Surg. 1995, (121) 1045-1048.

*Wass Jah, Besser M. Pituitary Tumors, In Oxford Textbook of Oncology Vol. 2 (chap. 16.3); Peckhamm; Pinedo H., Veronest U., Oxford University Press 1995, pp. 2122-2136.

*Yu LH, Ho CY, Lin CZ, Inverted papilloma. Chung Hua I Hsueh Tsa Chih (Taipei) 2000; 63(5): 349-54.

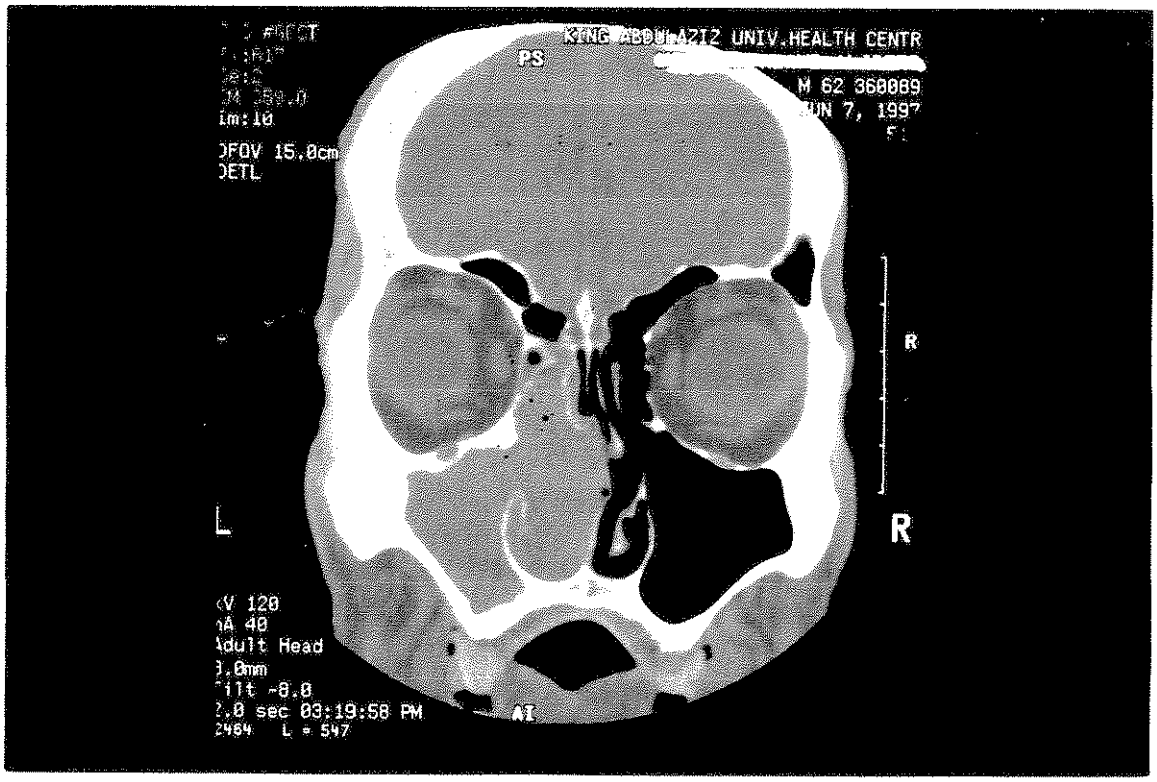

Figure 1 A. C.T.Scan showing the mass involving left maxillary sinus , ethmoid and left nasal cavity.

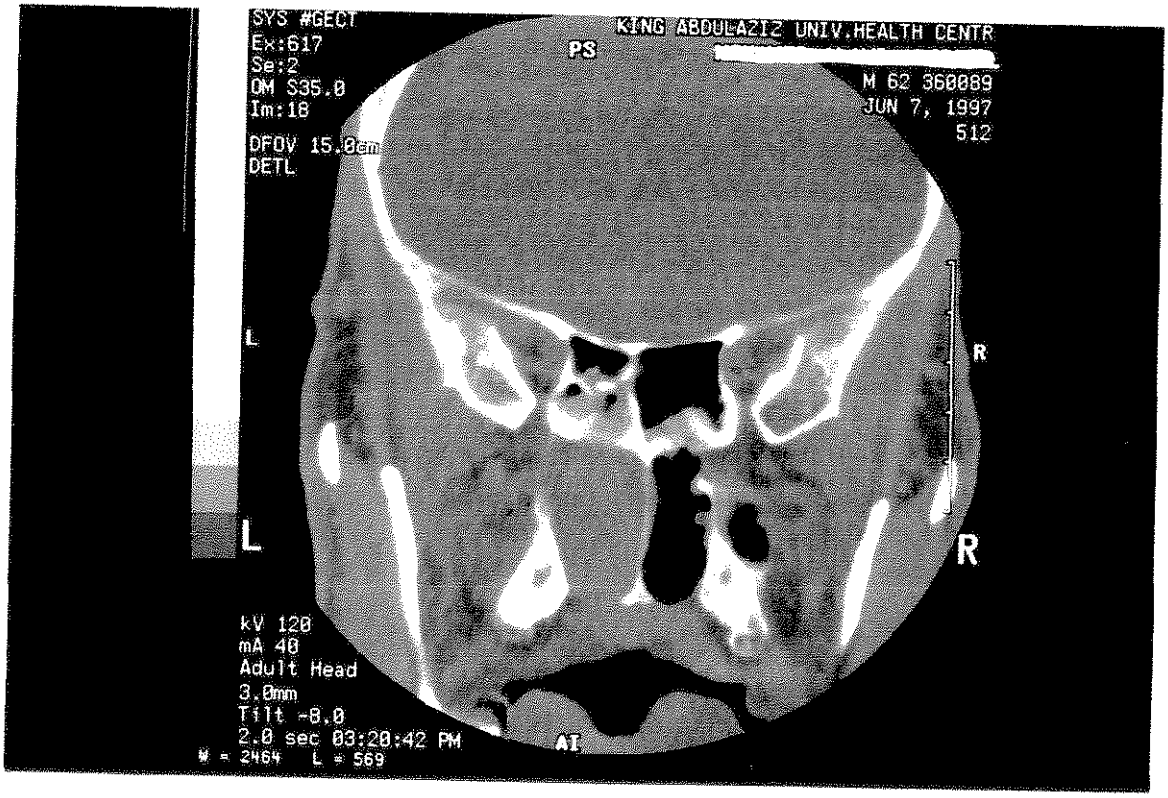

Figure 1 B. C.T.Scan showing the mass involving the left nasal cavity and left sphenoid sinus.

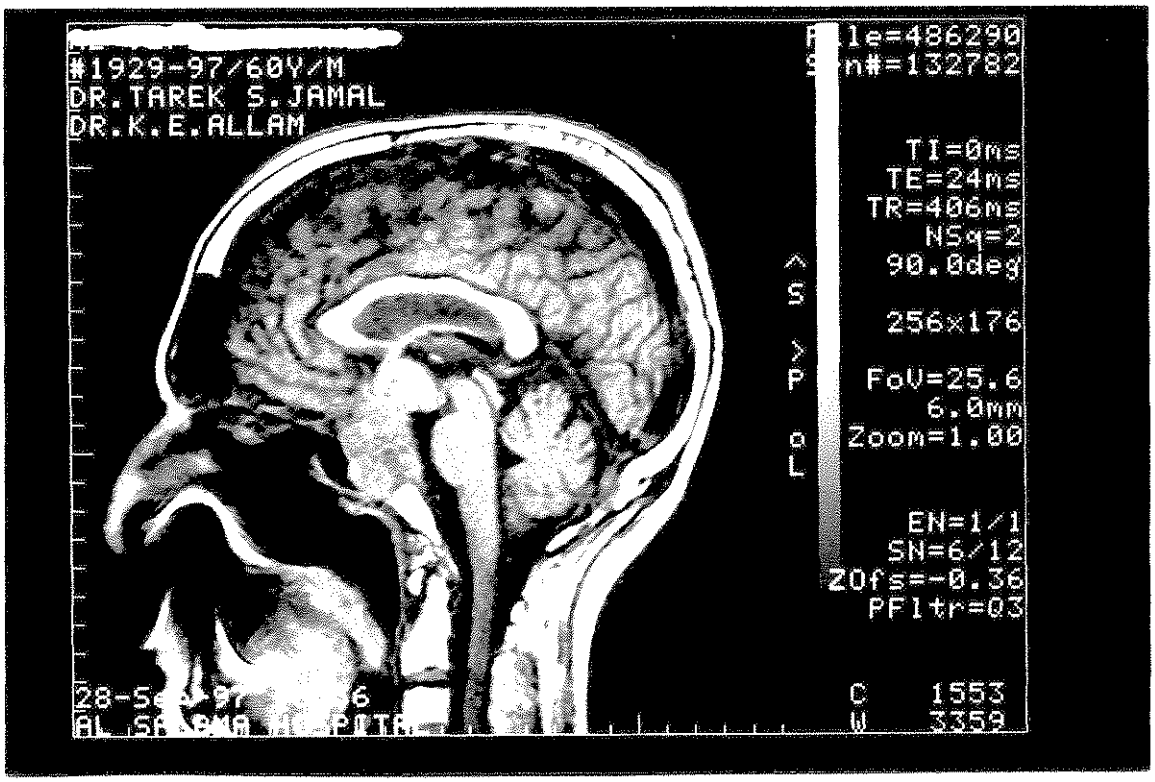

Figure 2 A. Sagittal M.R.I. showing the pituitary tumour extending into the sphenoid sinus

Figure 2 B. Axial M.R.I. showing free left nasal cavity with extension of the pituitary mass into the sphenoid sinus