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Unilateral Sino-Nasal Mass a Prospective Clinical Study

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Abstract :

Background :
A nasal polyp is the most common mass lesion encountered in the Nose, Described as an abnormal lesion that emanates from any portion of nasal mucosa or paranasal sinus.
Sino-nasal mass of another histological origin can be difficult to distinguish from nasal polyp based on symptoms, Nasal endoscopy and computed tomography. The nose and paranasal sinuses represent two of the rarest site of origin of head and neck cancer but also give rise to a great variety of different histological types.

Setting :
The prospective study planned achieved in hospital of specialized surgeries, department of Otorhinolaryngology from April 2007 to November 2008.

Objective :
To analyse the causes, the clinical presentations of unilateral sinonsal mass.

Patients and Methods :
The study involves 64 patient attended the outpatient department of Baghdad teaching hospital and Basrah general hospital department of otorhinolaryngology complaining of nasal symptoms with variable presentation. All the patients were assessed by a thorough history and clinical examination. Some of them had been sent for radiological investigation and imaging study and underwent incisional or excisional biopsy then send for histopathological examination.
According to the clinical and radiological findings, we divide the patients into 2 groups.

- The 1st group has no significant associated clinical finding nor radiological evidence of bony erosion called inflammatory.
- The 2nd group have significant associated clinical finding like Epistaxis, facial pain, paresthesia and radiological evidence of bony erosion and called neoplastic. Then compare that with the histopathological results.

Results :
In this study the total No of patients 64 – 41 male and 23 female. Thirty-five of them were found to have inflammatory mass. Twenty-nine of them were found to have neoplastic mass.

- The commonest inflammatory lesion was simple nasal polyp 25.
- The commonest neoplastic lesion was angiofibroma as benign and squamous cell carcinoma as malignant.
- The commonest presentation in the neoplastic lesion is epistaxis followed by facial pain.
- The commonest presentation is unilateral nasal mass is nasal obstruction.

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Conclusion: We found that a considerable percentage of unilateral sinonasal mass was neoplastic both clinically and histopathologically.

Introduction

This study focuses the light on the importance of sinonasal masses at clinical presentation and histopathological diagnosis taking in consideration the percentage of these masses in being neoplastic growth whether benign or malignant.

Tumors of the nasal cavity and paranasal sinuses are not uncommon affecting age groups and they may arise from epithelial, connective tissue, neural and vascular [(1)].

Carcinoma of the nasal cavity and paranasal sinus account for 3% of all head and neck tumors [(4)].

Unilateral nasal polyp should always be regarded with suspicion and histology is needed in order to exclude malignancy [8].

- Nasal polyposis are typically multiple and bilateral nasal bleeding, pain, unilateral polyp should alert the physician to other condition such as a malignant tumor or inverted papilloma, or in childhood meningocele. [8]

Sinus malignancy initially mimics benign disease, the diagnosis usually becomes evident only after an advanced stage has been reached, which explains the relatively poor prognosis. [9]

An intimate relationship between the nasal passages and paranasal sinuses is of considerable anatomical interest which is responsible for the ease by which malignant tumors spread from the nasal cavity into the sinuses and vice versa, and from sinus to another.

The sino-nasal neoplasm constitutes considerable challenges to the head and neck surgeon as they often present with advanced stage [11] .

Pathology :

Nasal polyposis :

The prevalence rate of nasal polyposis is about 2% it increases with age, reaching a peak in those aged 50 years and older. The male: female ratio is about 2:1 [(16)].

- Nasal polyposis is a chronic disease [(19)] .

Polyp recurrence rate depends upon the type of disease. It is low in cystic fibrosis and high in patients with non-steroidal anti-inflammatory drug intolerance and asthma.

Sinonasal malignancy :

Epidemiology :

- 0.2 – 0.8 % of all malignancies .
- 3 % of upper aerodigestive tract neoplasm.
- Most develop in the 5^{th} – 6^{th} decades [(18)].

Imaging

- A combination of both CT and MRI is required for all patients with sinonasal malignancy.
- Many scans are adversely affected by amalgam artifacts.

Patients and Methods

- During 18 months period from April 2007 – November 2008. Eighty-two patients attended the outpatient clinic of otorhinolaryngology in Baghdad teaching hospital.

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- Eighteen of them as second-time presentation as recurrence after surgical removal were excluded.
- All other 64 patients assessed by thorough history for nasal compliant like (nasal obstruction postnasal dripping, anosmia, epistaxis) or associated throat, ear, eye compliant like cheek swelling, facial pain, loss of teeth impaired hearing, proptosis, lymph node enlargement.
- Anterior rhinos copy
- Oral examination, then posterior rhinoscopy, rigid or fibropticnasoendoscopy.
- Neck examination.
- Ocular examination.
- Ear examination.
- Cranial nerve examination.
- Searching for the origin and extension of the mass either done by simple radiological assessment by x-ray of paranasal sinus or by CT scan of the nose and parasanal sinuses .
- All patients underwent biopsies under anesthesia (local or general) incisional or excisional then the biopsy sends for histopathological examination.
- Then divide the patients into 2 groups: inflammatory and neoplastic according to the clinical presentation and histopathological results.

Case No. Date : / / 20
Name : Age : Sex :
Occupation : Address :
DOA : / / 20 DOD : / / 20

Chief Complaint : Nasal obstruction Post nasal drip pain
Rhinorrhoea Anosmia Epistaxis Snoring

Duration :

Examination :

- Anterior rhinoscopy :
- Posterior rhinoscopy :
- Throat :
- Neck :
- Ear :

Investigations :

- Blood :
- Radiology :

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Results

In this study of 64 patients with unilateral sinonasal mass, we found that 41 of them (64 %) were male and 23 of them (36%) were female.

24 male patients had (non-neoplastic) inflammatory mass, and 17 male patients had neoplastic mass. Eleven female patients had inflammatory mass and twelve female patients had neoplastic mass as illustrated. The male-female ratio of the inflammatory sinonasal mass was 2.18:1; while the ratio for the neoplastic mass was 1.4:1 , with a total male : female ratio 1.8:1 as illustrated.

Discussion

No. and sex. Distribution

In this study prospective review of 64 cases with unilateral sinonasal mass with variable clinical presentation, 41(64%) out of them were male and 23(36%) of them were female, the male-female ratio 1.8:1 . Goes with Barakat N. (1993), Against with Shawn tritt, MD et al.

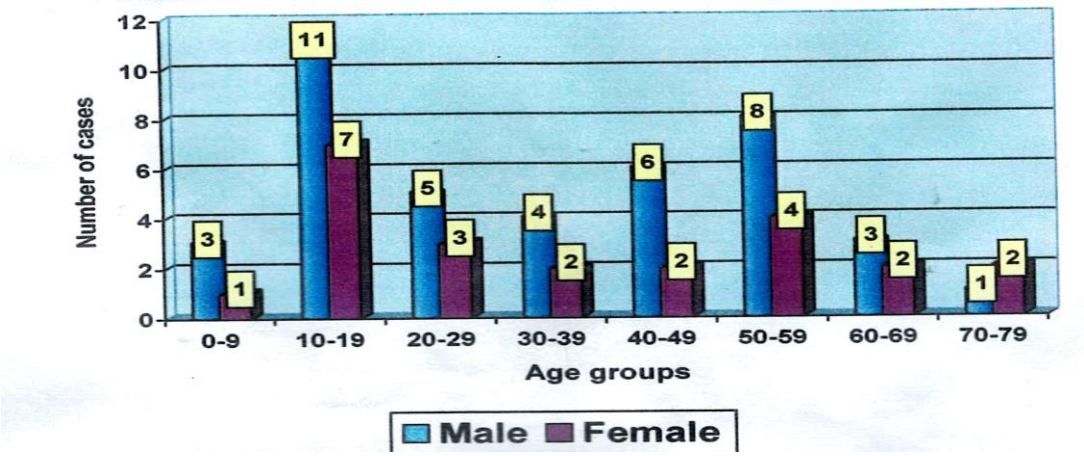

Figure (1) Gender distribution of unilateral sinonasal mass

Age

This study includes a wide age range (5 year – 75 years) with the peak of cases at the age group (10 – 19 years) and 2nd peak at (50 – 90 years).

The mean age of presentation.

- Unilateral sinonasal mass of inflammatory type, commonly affects age group (10 – 19) year (14 cases).
- Unilateral sinonasal mass of Benign tumor type commonly affects age group (50 – 59) year (5 cases) while of malignant tumor type affect age group (50 – 59) year and (70 – 79) years age group.
- Goes with Shakir M. A (2007), Against with Barakat N. (1993)

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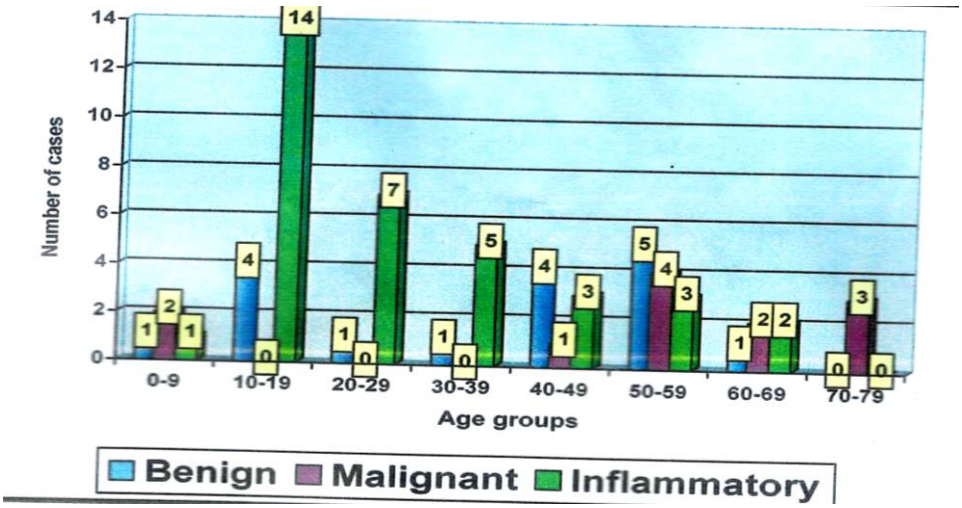

Figure (2) Distribution of different types of sinonasal mass according to the age groups

Table (1) Signs and symptoms of different sinonasal mass.

Symptoms and sings	Inflammatory mass	Benign mass	Malignant mass	Total
Nasal obstruction	29	10	9	**48**
Epistaxis	6	9	11	**26**
Pain	6	3	8	**17**
Propotosis	2	2	2	**6**
Change of smell	6	3	4	**13**
Diplopia	1	2	3	**6**
Impaired hearing	8	3	6	**17**
L.N. enlargement	0	0	0	**0**
Cheek swelling	5	1	4	**10**
Loss of teeth	**0**	**0**	**3**	**3**

Mode of presentation

- In this study, the commonest presentation is nasal obstruction with other symptoms 48(75%) out of 64. The 2nd common presentation is epistaxis with other symptoms 23 (63%) and facial pain 17(26.5%) and paraesthesia impaired hearing 17(26.5%) change of smell in 13(20.3%) .
- Goes with Hewa A. A (2001), and goes with Katzenmyer , K. (2000)

Histopathology

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Benign tumors

In this study, the neoplastic cases were 29 out of 64 of which 17(58.6%) were benign neoplasm.

- The commonest Benign tumor is angiofibroma 5 out of 17 (29.4%) and the most common site is the posterior part of nasal cavity.
- Goes with Barakat. N (1993), Against with Hewa (2001).

Table (2): Distribution of different benign tumors.

Type of benign tumors	No.	%
Squamous cell papilloma	2	**11.7**
Angiofuibroma	5	**29.4**
Inverted papilloma	3	**17.6**
Plemorphic adenoma	2	**11.7**
Hemangioma	1	**5.88**
Ossifying fibroma	1	**5.88**
Chondroma	1	**5.88**
Osteoma	1	**5.88**
Shwannoma	**1**	**5.88**

In this study, the 2nd common Benign tumor was inverted papilloma 3 out of 17. site of lesion in the lateral wall.

- Goes with Cheesman, A. D. (1973), and Valerie et al (2000), and Hewa A.A. (2001) report that the commonest site of involvement was the nasal cavity.

Malignant tumors

In this study, the neoplastic cases were 29 out of 64 cases (45.25%) of all cases. 12(41.3%) of which were malignant.

- The most common malignant tumor was squamous cell carcinoma (5 out of 12).
- The most common site is the lateral nasal wall.

Table (3) Distribution of different malignant tumors

Type	No.	%
Squamous cell Ca	5	**41.6**
Malignant melanoma	2	**16.66**
Hemiangiopericytoma	1	**8.33**
Rhabdomysarcoma	2	**16.66**
Adenoid cystic carcinoma	2	**16.66**
Total	**12**	**100**

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- Goes with Brakat (1993), Against with Kurtulmaz , Y. (1997),
- Goes with Katzenmyer , K (2000)
-

Table (4): Distribution of different sinonasal mass.

Type	No.	%
Simple polyp	16	**45.7**
Antrochonanal polyp	10	**28.5**
Granuloma	5	**14.2**
Rhinolith	2	**5.7**
Fungal	1	**2.8**
Rhinoscleroma	**1**	**2.8**

Conclusion

- The non-neoplastic (inflammatory) mass is more than the neoplastic mass.
- The benign mass is more than a malignant mass.
- For both neoplastic and non-neoplastic, males are affected more than females.
- The peak age incidence for the non-neoplastic (inflammatory) mass is in the 2nd decade, with 2nd and 3rd peaks at the 3rd and 4th decade respectively.
- The peak age incidence for benign mass was the 6th decade and the 2nd peak at the decade.
- The peak age incidence for malignant mass was the 6th decade with the 2nd peak at the 8th decade.
- The commonest presentation for all types of unilateral sinonasal mass was nasal obstruction.
- The 2nd common presentation in a neoplastic type of unilateral sinonasal mass was epistaxis,
- The 3rd commonest presentation in a neoplastic type of unilateral sinonasal was facial pain paraesthesia or impaired hearing.
- No cervical lymph node involvement.
- No distant metastasis.
- The commonest sinonasal inflammatory mass was a simple polyp .
- The commonest sinonasal benign tumor mass was angiofibroma followed by inverted papilloma and pleomorphic adenoma and squamous cell papilloma.
- The most common benign tissue tumor was inverted papilloma, the commonest site of involvement was the lateral nasal wall followed by nasal cavity and parasanal sinus .
- The 2nd common benign epithelial tissue tumor was squamous cell papilloma.

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- The most common malignant tumor involving the nose paranasal sinus was squamous cell carcinoma followed by adenoid cystic carcinoma in adults, rhabdomyosarcoma in children and malignant melanoma in the elderly .

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الكتل الأنفية الجيبية احادية الجانب دراسة سريرية مستقبلية

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الخلاصة:

هذه دراسة مستقبلية أجريت في قسم الأنف والأذن والحنجرة في مستشفى الجراحات التخصصية ومستشفى البصرة العام لـ 64 مريض مصابين بكتل أنفية جيبيه احادية الجانب للفترة من نيسان 2007 – تشرين الثاني 2008 .

جمعت المعلومات المتعلقة بأعمار وأجناس ومناطق سكن ووظائفهم وحددت الاعراض والعلامات السريرية كما درست الفحوصات النسيجية والشعاعية لتحديد انواع هذه الكتل . ودرست هذه المعلومات وحللت تفصيليا .

التاريـــــخ :

1. (35) مريض كانوا مصابين بكتل لا ورمية (التهابية) . بينما (29) مريض كانوا مصابين بأورام حميدة .
2. كان عدد المرضى من الذكور أكثر من الأناث في كل انواع الكتل وكانت نسبة اصابة الذكور الى الاناث (1 / 1.8)
3. المدى العمري : في حالة الكتل الالتهابية (اللاورمية) كان المدى العمري من (5 – 69) سنة وفي حالة الأورام الحميدة كان المدى العمري (5 – 69) سنة . اما في حالة الأورام الخبيثة كان المدة العمري (5 – 75) سنة .

كان اكثر المصابين بالكتل الالتهابية (اللاورمية) في العقدين الثاني والثالث . اما المصابين بالأورام الحميدة فكانوا في العقد السادس والثامن ، بينما ظهرت الأورام الخبيثة في المرضى الذين تجاوزا عمر الأربعين وحالتين في الخامسة من العمر .

العلامات والأعراض المرضية :

كان انسداد الأنف والتهاب الجيوب الأنفية والرعاف والألم الوجهي والتورم الوجني أكثر العلامات المرضية ظهورا .

ان الكتل الالتهابية بنسبة 54.6 % وشملت السليلات البسيطة والتقرنات الأنفية والنظريات الجيبية الأنفية وأغلب علاماتها هو انسداد الأنف وافرازات خلف الأنف . ان اكثر الأورام الحميدة ظهورا هي :

1. الورم الوعائي الليفي Angiofibroma بنسبة (29.4) % .
2. الورم الحليمي Inverted papilloma بنسبة (17.6) % .
3. ورم الغدد اللعابية Pleomorphic adenoma بنسبة (11.7) % .
4. الورم الحرشفي الخلايا Squamous cell papilloma (11.7) % .

- أما اعراض الأورام الحميدة فكانت في الغالب انسداد الأنف مع الرعاف او الام الوجه وفي بعض الحالات ضعف حاسة الشم وضعف السمع .
- ظهرت اكثر حالات الورم الوعائي الليفي Angiofibroma في العقد الثاني .
- في اكثر الحالات ظهرت الاصابة في التجويف الأنفي الخلفي في قسم من الحالات ظهرت في التجويف الأنفي والجيوب الأنفية معا .
- ظهرت أكثر الاصابات في حالة الورم الحليمي (Inverted papilloma) في الذكور فقط في العقدين السادس والسابع ، وكان الجدار الجانبي للأنف أكثر الاماكن اصابة ، وجيب الفك العلوي هو أكثر الجيوب الأنفية اصابة .
- ان أكثر الأورام الخبيثة ظهورا هو السرطان الحرشفي الخلايا Squamous cell carcinoma (41.6) % وان اكثر الأماكن اصابة هو الجيوب الأنفية ، معظم حالات الاصابة بالسرطان الحرشفي الخلايا كانت في مراحل متقدمة.
- ظهرت السرطانات الغدية Glandular Carcinoma بنسبة أقل . وكانت أكثر الأماكن اصابة في التجويف الأنفي ثم تلاها الجيوب الأنفية وكان جيب الفك العلوي هو أكثر الأماكن اصابة .. بينما السرطان الغدي من نوع Adeno carcinoma في الجيوب الغربالية بصورة خاصة .
- ان أكثر الأورام السرطانية في الأطفال كانت من نوع سرطات غرن العضلة المخططة(Rhabdomyosarcoma).
- لم يظهر انتشار المرض الى الغدد اللمفاوية العنقية .
- لم يظهر انتشار المرض الى اماكن اخرى في الجسم .