

Malignant tumours of nasal cavity and paranasal sinuses in north of Iraq a fifteen years retrospective study

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ABSTRACT

Objectives: To identify the different pathological types of malignant tumors of nasal cavity and paranasal sinuses, their different clinical aspects, treatment received and prognosis in north of Iraq.

Design: Retrospective study.

Settings: Files of patients treated in the hospital of oncology and nuclear medicine in Mosul over 15 years period(1980-1994).

Main outcome measures: Types, incidence, age and sex distribution, anatomical sites, clinical presentation, staging, method of treatment and prognosis.

Results: They constituted 0.51% of all malignancies and 2.13 % of head and neck cancers. Sinus tumours affected both sexes equally as well as both sides. Nasal cavity tumours were more common in male (male/female=1.4/1) and in the right side (right/left=1.33/1). The commonest age at presentation was the fifth decade.

The most common presenting symptom was facial and nasal pain with average delay in diagnosis of about 8.5 months. Tumours of epithelial origin formed the majority of cases(85.68%).

All maxillary and ethmoidal cases were advanced at time of diagnosis (T3 or T4), while 60% of nasal cavity tumours were T1 and T2. 21.87% of patients had palpable cervical lymph nodes at presentation.

The majority of patients received radiotherapy alone, few cases had surgery alone or both, but prognosis was generally unsatisfactory

Conclusion: Malignant tumours of nose and sinuses are rare in north of Iraq, are usually advanced at presentation, and carry poor prognosis.

Key Words: Malignant Tumours, Nasal Cavity, Paranasal Sinuses

الخلاصة

الهدف: دراسة الأورام الخبيثة للأنف والجيوب الأنفية من ناحية الأنواع النسيجية المختلفة والصفات السريرية والعلاج والمتابعة بعد العلاج.

التصميم: دراسة تراجعية.

موقع العمل: أجريت الدراسة بمراجعة سجلات المرضى المراجعين لمستشفى الأورام والطب النووي بالموصل خلال خمسة عشر عاماً.

الحالات: ثمانية وخمسون حالة.

المدخلات الإجرائية: درست الحالات من ناحية العمر والجنس, موقع الورم, أعراض وعلامات الإصابة ومتابعة الحالات واستجابتها لأنواع العلاج المختلفة.

النتائج: درست ثمانية وخمسون حالة من الأورام الخبيثة في الأنف والجيوب الأنفية خلال خمس عشرة سنة (1980-1994). منهم 33 في الجيب الفموي, 17 في التجويف الأنفي, و 8 في الجيب الغربالي. وشكلت بمجموعها 0,5% من مجموع الأورام الخبيثة و 2,13% من أورام الرأس والعنق.

أورام الجيوب كانت متساوية لدى الذكور والإناث في حين كانت أورام التجويف الأنفي أكثر لدى الذكور (١/١,٤) وفي الجهة اليمنى (١/١,٣). أكثر الأعمار إصابة كانت حول الخمسين سنة , وأكثر الأعراض الأولية اكتشافا للمرض كانت الألم في الوجه والأنف ومعدل التأخير بين الشكوى والتشخيص كان ٨,٥ شهرا. أورام الأغشية المخاطية شكلت ٨٥,٦٨% من الحالات. وجدت جميع أورام الجيوب الأنفية في مراحل متقدمة عند التشخيص (T3-T4) في حين أن ٦٠% من أورام التجويف الأنفي كانت (T1-T2). ٢١,٨٧% كانت لديهم عقد لمفاوية محسوسة عند التشخيص. معظم الحالات عولجت بالأشعة, وبعضها بالأشعة والجراحة ولكن النتائج كانت غير مرضية بصورة عامة. نستنتج أن أورام التجويف الأنفي والجيوب الأنفية نادرة في شمال العراق والحالات متقدمة عند التشخيص ونتائج علاجها غير مرضية.

Malignant tumors of the nasal cavity and paranasal sinuses are uncommon^(1,2). An Incidence of 0.35 and 0.25 was reported in cancer registry of Baghdad and Mosul respectively^(3,4). In western countries, namely United Kingdom and United States, they form about 1% of all malignancies and 3% of head and neck tumours^(2,5). Their incidence in African and Japanese seems to be roughly twice as that⁽²⁾.

The rarity of these tumours, the complex anatomy of the region and the similarity of their symptoms to the more common inflammation of the upper respiratory tract, collectively result in delayed diagnosis and unsatisfactory prognosis^(5,6). The mean five years survival rate of 35% is highly disappointing⁽⁷⁾. Recently, the adoption of modern diagnostic techniques, the use of radical surgery for sinonasal neoplasms in combination with radiation therapy has vastly improved the outlook for these tumours^(1,8).

MATERIALS AND METHODS

The files of 58 cases referred to the hospital of Oncology and Nuclear medicine in Mosul, over fifteen years period (from 1980 to 1994 inclusive) with malignant tumours of nasal cavity and paranasal sinuses were thoroughly reviewed to study their relative frequency, age and sex distribution, anatomical location, clinical presentation, histological types, staging according to AJC system, and the methods of treatment. Cases of skin cancer of nose and face were not included in this study. Exception was a single case of basal cell carcinoma affecting the nasal vestibule medially.

RESULTS

Fifty eight cases of malignant tumors of nasal cavity and paranasal sinuses were found over fifteen years constituting 2.13% of head and neck and 0.5% all body tumors in the following frequency according to site:

1. Maxillary 33 cases (56.9%)
2. Nasal cavity 17 cases (29.3%)
3. Ethmoidal 8 cases (13.8%)

Maxillary and ethmoid tumors were equally distributed among both sexes and both sides, while nasal cavity tumors were more common in males (M/F ratio=1.4/1) and more in the right side (R/L=1.33/1). Table 1 shows the sites involved within the nasal cavity, the lateral wall being the commonest. Identifying the site of origin within the sinuses was impossible because tumors were usually advanced at presentation involving more than one site.

Table (1): Site involvement within nasal cavity.

Site	Number	%
Lateral Wall	11	76.70%
Septum	5	29.41%
Floor	1	5.88%
Total	17	100.00%

Figure 1 shows the age distribution curve. The age range was 3-89 years with the highest incidence in the 6th for maxillary and nasal cavity tumours, and the 7th decade for ethmoid tumours. The youngest patient with carcinoma was 19 years old male with undifferentiated carcinoma of the maxillary sinus, and the youngest with sarcoma was 3 years old boy with angiosarcoma of the nose.

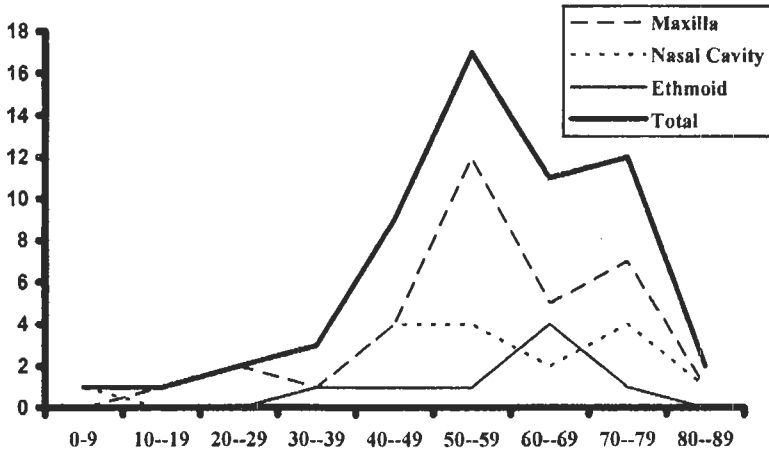


Figure (1): Age Distribution Curve.

The initial complaints of the patients are presented in table 2; it also gives the delay in diagnosis for each symptom which was on average 8.5 months.

A variety of tumour types has been described in the upper jaw. Those found in this study are summarized in table 3. 85.68% are of epithelial origin, most of which are squamous cell carcinoma

(60.71%). The non-epithelial tumours form a minority (14.26%).

Table 4 shows that all maxillary and ethmoid tumours are T3 and T4 at presentation. This means that all cases were diagnosed after they had extended beyond the bony margin of the sinus. Nasal cavity tumours behaved better with more than 60% being at T1 or T2 at presentation.

Table (2): Incidence of different presenting symptoms.

Presenting Symptom	Maxilla %	Nasal Cavity %	Ethmoid %	Delay (months)
1.Pain(facial, nasal)	25%	13.3%	-	5.2
2.Nasal Mass	16.6%	13.3%	-	3.12
3.Cheek Mass	20.83%	-	-	3.6
4.Ref. Earache	4.16%	-	-	6
5.Headache	8.3%	6.66%	25%	14.5
6.Dental problem	16.6%	-	-	5.33
7.Epistaxis	4.16%	33.3%	25%	9.57
8.Fever	4.16%	-	-	4.00
9.Eye pushing mass	-	-	25%	2.5
10.Nasal polyp	-	-	25%	4
11.Sinusitis	-	6.66%	-	6
12.Nasal obstruction	-	26.66%	-	16.4

Table (3): Distribution of different malignant tumours.

	Maxilla	Nasal Cavity	Ethmoid	Total
Anaplastic Ca.	9.6%	11.76%	12.5%	10.71%
Squamous Cell Ca.	67.7%	52.76%	50%	60.71%
Melanoma	3.2%	-	-	1.78%
Transitional Cell Ca.	-	11.76%	25%	7.14%
Basal Cell Ca.	-	5.88%	-	1.78%
Adenoid Cystic Ca.	-	5.88%	-	1.78%
Mucoepidermoid	-	-	12.5%	1.78%
Sarcoma	9.6%	-	-	5.38%
Plasmacytoma	6.4%	5.88%	-	5.38%
Malignant Fibrous Histocytoma	2.3%	-	-	1.78%
Angiosarcoma	-	5.88%	-	1.78%

Table (4): Tumour staging in different sites at time of presentation.

Stage	Maxilla	Nasal Cavity	Ethmoid	Total
T1	0%	31%	0%	12.5%
T2	0%	31%	0%	12.5%
T3	57%	23%	60%	44%
T4	42%	15%	40%	31%

35.6% of maxillary and 15.3% of nasal cavity patients had lymph node metastasis at presentation either to submandibular or deep cervical groups .

Most cases in this study were managed with radiotherapy alone, but few cases had maxillectomy with or without radiotherapy, but a conclusion can not be built up due to the limited number of cases with complete follow up.

DISCUSSION

Malignant tumours of the nasal cavity and paranasal sinuses are uncommon in North of Iraq, more than half of them affected the maxillary sinus. These results agree with studies in western countries^(1,2,5).

Within the nasal cavity, these tumours were more common in the right side of the nose, a similar result was found by Cheesman et al⁽⁵⁾ and related it to trauma of nose picking⁽⁵⁾.

The delay in diagnosis of patients between the first noticeable symptom and diagnosis is a very major problem which markedly affects prognosis⁽⁹⁾. Studies reported a delay of 6 months⁽⁵⁾ and attributed it to rarity of these tumours with consequent relative unawareness of the condition and the similarity of their symptoms with the more common inflammatory conditions of the upper airway. These result in failure to recognize the true diagnosis before the tumour extends beyond the bony margin of the sinus⁽⁵⁾. The delay in this study was found to be even longer and on average about 8.5 months. This delay was, unexpectedly, longest in patients who complain of nasal obstruction (16.4 months) followed by headache (14.5 months). 25% of cases with maxillary tumours initially complained of vague facial and nasal pain, followed by cheek mass (20.83%), nasal mass (16.6%) and dental problem (16.6%). Malignancy of the nasal cavity presented mostly with epistaxis (33.3%) and nasal obstruction (26.6%). Patients with ethmoid tumours complained of eye symptoms, nasal polyp, headache and epistaxis in equal proportions.

Staging of nasal and paranasal sinus cancers is a debatable subject; different systems of classification were described, but there is no general acceptance of any of them⁽⁵⁾. The use of the recent imaging techniques (namely MRI and CT scan) is helpful and shows convincing results in this respect^(5,10,11).

The AJCC is the most accepted classification at present time and was adopted to classify cases in this study.

All maxillary and ethmoid tumours were T3 and T4 at presentation; this means that almost all cases were diagnosed after they had extended beyond the bony margins of the sinus. Harrison stated that failure to cure maxillary sinus cancer is due primarily to failure to eradicate extension of tumor outside the bony walls of the sinus⁹.

There is no single regimen accepted for treatment of upper jaw cancers. Surgery, radiotherapy, cryotherapy, immunotherapy, and chemotherapy (local or systemic) have been used alone or in combination with different prognostic results¹². The evaluation of the results in different studies is difficult because there is quite marked distinction in prognosis between different histological types, and also within the same histological type at different sites¹¹, and the limited number of cases in this survey does not permit a prospective randomized clinical trial to be completed within reasonable time⁽⁷⁾.

Most cases in this study were managed with radiotherapy alone, but few cases received maxillectomy with or without radiotherapy.

Conclusion: Malignant tumours of nasal cavity and sinuses are relatively rare. The maxillary sinuses are affected in more than half of cases. Owing to their rarity, and similarity of their symptoms to the more common conditions of upper respiratory tract, they are usually late at time of diagnosis and carry bad prognosis. All cases with unexplained nasal obstruction or facial pain should be thoroughly investigated hoping for early tumour diagnosis.

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