European Annals of Otorhinolaryngology, Head and Neck diseases 131 (2014) 83–86

Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com/en

Original article

Head and neck sarcoma: Analysis of 29 cases

J. Barosa [a,*], J. Ribeiro [a], L. Afonso [b], J. Fernandes [c], E. Monteiro [c]

[a] ENT department, Coimbra university hospitals, Praceta Mota Pinto, 3000 Coimbra, Portugal
[b] Pathology department, Oporto oncology institute, Rua Dr. António Bernardino de Almeida, 4200-072 Porto, Portugal
[c] ENT department, Oporto oncology institute, Rua Dr. António Bernardino de Almeida, 4200-072 Porto, Portugal

ARTICLE INFO

Keywords:
Head and neck
Sarcoma
Survival

ABSTRACT

Objectives: The purpose of this study was to analyze the outcome of patients suffering from head and neck sarcomas and to identify indicators of outcome.
Material and methods: The medical records of 43 patients treated between 2000 and 2010 were analyzed. All patients were suffering from primary head and neck sarcoma. The final study sample included 29 patients.
Results: Mean survival was 56 months. Overall 2- and 5-year survivorship was 69% and 31% respectively. Parameters positively influencing survival were: male gender; non-smoker; alcohol consumption; age < 18 years; tumor size < 5 cm; location (nasal pyramid, jaw and maxillary sinus). Rhabdomyosarcoma and synovial sarcoma were the histological forms positively influencing prognosis. Age was the only parameter significantly influencing survival ($P < 0.05$).
Conclusions: The present overall 5-year survivorship was similar to the lower limit of the available literature data. Age was the only proven indicator of outcome. In order to have more reliable data it is essential to set up broader databases.

1. Introduction

Sarcoma of the head and neck is very rare, representing only 1% of all primary tumors arising within the head and neck region [1], and accounting for 4–10% of all sarcomas [2].

Sarcomas are divided into two types: soft tissue sarcomas and bone/cartilage sarcomas [3]. Most (~80%) are of soft tissue origin, with only 20% of bony or cartilaginous origin [1].

They originate from mesenchymal cells and are a diverse group that arises from many different tissues, including bone, cartilage, muscle, fat, blood vessels and nerves [2].

Sarcomas of the head and neck are malignant tumors with a wide spectrum of histological subtypes and sites of origin, but are grouped together because of similarities in prognostic factors, clinical presentation, derivation from the embryonic mesoderm and overall outcome [4].

Although more than 50 histological subtypes have been identified, the current staging criteria used to determine treatment are universal for almost all subtypes and depend on the histological grade, tumor size and depth, as well as the presence of remote or regional metastases [4].

Management of these neoplasms presents a great challenge [5].

The general concepts of sarcoma management are not universally applied in head and neck. The delicate anatomy of the head and neck limits the ability to obtain wide surgical margins. This may be the reason why there is a higher local recurrence rate and worse disease-specific survival in head and neck sarcomas compared to other sites [5].

The optimal treatment is complete resection [6].

Due to the rarity of head and neck sarcomas in adults and the small number of treatment centers, there is not enough clinical evidence-based data in the literature to provide sufficient patient numbers to identify prognostic factors or associated influences on overall survival [4].

As a result, information about sarcomas is scattered throughout the literature.

There is an urgent need for reliable data [2].

The aim of this study is to analyze the clinical findings, management and survival of patients suffering from head and neck sarcoma and to find indicators of outcome.

2. Materials and methods

A retrospective study was conducted from 2000 to 2010, based on analysis of 43 patients' medical records.

* Corresponding author. Tel.: +351239400400.
E-mail addresses: jpbarosa@gmail.com (J. Barosa), jcarlosribeiro@gmail.com (J. Ribeiro), lpafonso@gmail.com (L. Afonso), joaonvfernandes@gmail.com (J. Fernandes), euricofmonteiro@gmail.com (E. Monteiro).

http://dx.doi.org/10.1016/j.anorl.2012.11.007
1879-7296/

Table 1
Case details.

Case	Age	Gender	Smoking	Alcohol	Size (cm)	Location	Histology	Surgery	CT	RT	Survival (months)	Recurrence
1	5	M	–	–	2	Maxillary sinus	Rhabdomyosarcoma	+	+	+	322	+
2	41	F	–	–	2	Mandible	Synovial sarcoma	+	–	+	144	+
3	65	M	+	+	2	Gingival mucosa	Malignant fibrous histiocytoma	+	+	+	77	–
4	67	F	–	–	7	Maxillary sinus	Osteosarcoma	+	–	+	12	+
5	90	M	–	–	1	Buccal mucosa	Kaposi's sarcoma	+	–	–	34	–
6	25	M	–	–	4	Mandible	Osteosarcoma	+	–	–	118	–
7	71	F	–	–	5	Maxillary sinus	Osteosarcoma	–	–	–	12	–
8	44	M	+	+	3	Gingival mucosa	Leiomyosarcoma	–	–	–	1	–
9	6	M	–	–	2	Nasal pyramid	Rhabdomyosarcoma	+	+	+	120	+
10	79	M	–	–	7	Larynx	Osteosarcoma	+	–	–	4	–
11	58	F	–	–	4	Maxillary sinus	Osteosarcoma	+	+	+	35	+
12	41	M	+	+	3	Nasal pyramid	Chondrosarcoma	+	–	+	99	+
13	48	M	–	+	2	Maxillary sinus	Angiosarcoma	+	+	+	136	+
14	50	M	–	–	2	Tongue	Leiomyosarcoma	+	+	+	11	+
15	16	F	–	–	5	Tongue	Osteosarcoma	+	+	+	82	–
16	70	M	+	–	3	Larynx	Chondrosarcoma	+	–	–	47	–
17	5	M	–	–	6	Mandible	Rhabdomyosarcoma	+	+	+	22	+
18	54	M	–	–	4	Larynx	Leiomyosarcoma	+	–	–	53	–
19	21	M	–	–	3	Maxillary sinus	Rhabdomyosarcoma	+	+	+	25	+
20	44	F	–	–	3	Gingival mucosa	Angiosarcoma	+	+	+	48	+
21	9	M	–	–	4	Nasopharynx	Osteosarcoma	+	–	–	43	–
22	30	M	–	–	1	Larynx	Rhabdomyosarcoma	+	+	+	37	–
23	71	F	–	–	4	Maxillary sinus	MPNST	+	–	–	29	+
24	81	F	–	–	5	Maxillary sinus	Osteosarcoma	+	–	+	26	–
25	26	M	–	–	5	Mandible	Osteosarcoma	+	+	+	22	+
26	24	M	–	–	4	Maxillary sinus	Angiosarcoma	+	+	+	32	+
27	74	M	–	–	11	Maxillary sinus	MPNST	+	–	–	7	–
28	44	M	–	–	3	Maxillary sinus	Osteosarcoma	+	+	+	32	+
29	72	F	–	–	6	Maxillary sinus	MPNST	+	–	–	6	–

MPNST: malignant peripheral nerve sheath tumor; M: male gender; CT: chemotherapy; F: female gender; RT: radiotherapy; +: presence; –: absence.

Histologically proven, sarcoma of the head and neck was the only inclusion criterion.

Insufficient information about any of the analyzed parameters was the only exclusion criterion.

We had access to 29 cases with complete information (Table 1).

Epidemiological parameters and patient survival were recorded.

Age, alcohol consumption, smoking, gender, tumor location, treatment (radiotherapy, chemotherapy or surgery), metastases, tumor recurrence and histological subtypes were theparameters analyzed.

All statistical analyses were carried out using the IBM-SPSS version 18.0 software package (International Business Machines – Statistical Package for the Social Sciences – Armonk, New York, USA). Survival curves were calculated using the Kaplan–Meier method.

The area under the curve was calculated with 95% confidence interval.

3. Results

The study sample included 20 males and nine females, aged between 5 and 90 years (Tables 2–6).

Mean age was 45.9 ± 25 years.

The most frequent symptoms at presentation were: neck mass (62%), epistaxis (14%) and dysphonia (14%).

Osteosarcoma was the most common tumor, arising in 34% of patients (10 cases).

Table 2
Mean survival details. Overall survival (OS).

Overall survival	*n*	OS (%)
24 M [1]	20	69
60 M [2]	9	31

M: month.

Table 3
Mean survival (MS) details. Mean survival per histological subtype.

Histology	*n*	MS
Osteosarcoma	10	39.3
Non-osteosarcoma	19	65.8
Rhabdomyosarcome	5	105
Angiosarcoma	3	72
Leiomyosarcoma	3	21.7
MPNST [3]	3	14
Chondrosarcoma	2	73
Kaposi's sarcoma	1	34
Synovial sarcoma	1	144
Malignant fibrous histiocytoma	1	77

The remaining histologically confirmed sarcomas were rhabdomyosarcoma (5 cases, 17%), angiosarcoma, leiomyosarcoma, malignant peripheral nerve sheath tumor (3 cases each, 10%), chondrosarcoma (2 cases, 7%), and Kaposi's sarcoma, synovial sarcoma and malignant fibrous histiocytoma (1 case each, 3%).

The most common locations were the maxillary sinus and upper aerodigestive tract, with 11 patients each (39%), and the face with six cases (21%).

Most tumors were smaller than 5 cm (20 cases, 69%).

Table 4
Mean survival details (MS). Mean survival per location.

Location	*n*	MS
Maxillary sinus	12	56.2
Larynx	4	32.5
Mandible	4	76.5
Gengival mucosa	3	42
Nasal pyramid	2	110
Tongue	2	46.5
Nasopharynx	1	43
Buccal mucosa	1	34