

Epidemiological Data of Head and Neck Cancer Incidence in a Tertiary Case Dental Hospital in Southern India.

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Abstract:

Aim&Objectives:To make an epidemiological data of head and neck cancer in a tertiary case dental hospital in Southern India.

Background:

Regional cancer epidemiology is an important basis for determining the priorities for cancer control in different countries worldwide. There is no reliable information about the pattern of head and neck cancer in Chennai and hence an attempt was here made to evaluate the situation based on hospital data, which provide the only source in this part of the country. A clinicopathological analysis of head and neck cancers treated between 2013-2015 in this college is planned. The planned analysis will include number of incidence, sex incidence, histological subtypes, sites of involvement, relation with smoked and consumed form of tobacco, chronicity of addiction and other major relevant parameters. Final form of the study will be presented after complete analysis of the data available at Saveetha Dental College.

Key words:

Well differentiated squamous cell carcinoma, chemotherapy, chemoradiation, radiotherapy, squamous cell carcinoma.

INTRODUCTION :

About 22 million is estimated to be a total burden of cancer across the world. Almost 10 million new cases of cancer are being diagnosed very year across the world. Cancer of all forms causes death in about 12% of the populations across the world. Cancer ranks third in mortality in developing countries like India.

Head and neck cancer prevalence differs depending, on sex, country and subtype^[1-5]. 5-15% of incidence rate has been reported in various countries^[6]. The two major components associated with Head and neck cancer are tobacco and alcohol. Betel quid, tobacco chewing and Areca-nut, all these three increase the risk if few sub sites in the head and neck cancer in south Asian countries^[7-9].

The aim of this study was to bring out the epidemiological characteristics of the malignant tumours of head and neck cancer in dental hospitals in Southern India. So a clinicopathological study was conducted with the treatments done in this college between 2013-2015 and this study includes the sex incidence, cases of smokers and any form if consumption of alcohol, histological subtypes and sites involved.

MATERIALS AND METHODS:

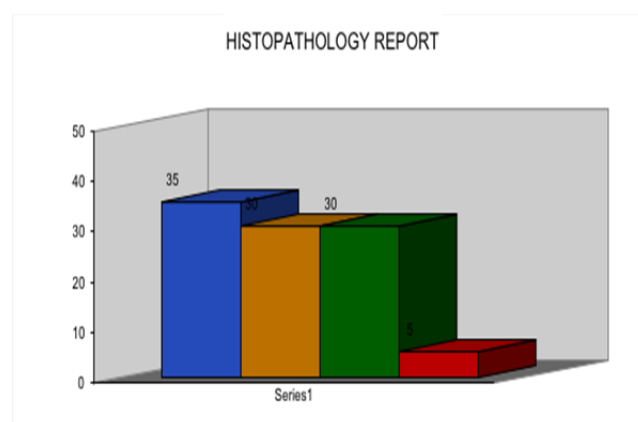
This study was done by collecting all the histopathological datas that were recorded in the college between the years 2013-2015 and these datas included the information of incidence rate, sex incidence, in relation with smoking and any alcohol or tobacco consumption, histological subtypes the sites of cancer involved. And the results regarding the treatment duration, type of biopsies, type of carcinoma affecting the maximum were all related with the age group from <40years to >60years and to both sex. All these

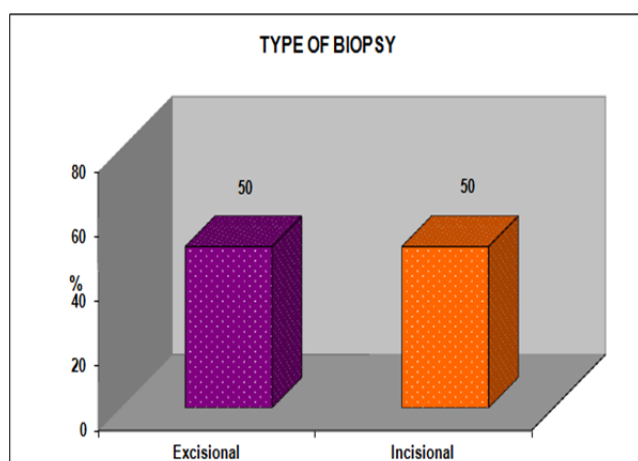
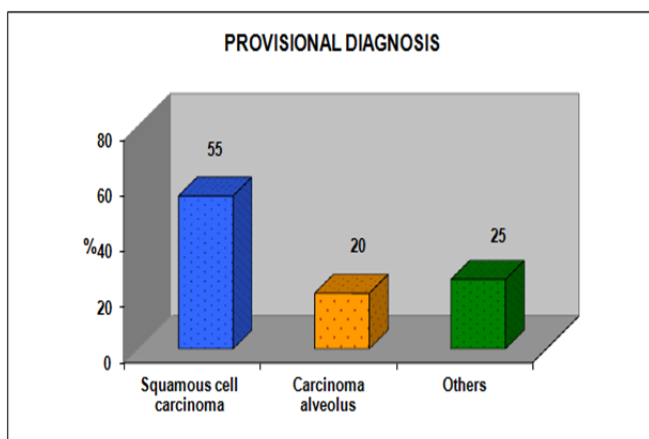
comparison was done with the SPSS version software and the analysis are tabulated below.

RESULTS :

So finally observing all these results, the following things were identified.

Based on the histopathological report maximum frequency (35%) was seen for well differentiated squamous cell carcinoma and minimum frequency (5%) was seen for aggressive cemento-ossifying carcinoma. Based on the provisional diagnosis given the maximum frequency was given for squamous cell carcinoma (55%) and minimum frequency was seen in other forms of cancer (25%). Based on the type of biopsy it was found that both excisional and incisional biopsy were needed in equal response (50% each). Based on the treatment done chemotherapy and surgery was more preferred over the others with a frequency of 30%.





DISCUSSION :

On analysing the histopathological reports the people belonging to the age group of less than 40 years were found more prone to well differentiated squamous cell carcinoma and few people of the age group were also affected by aggressive cemento-ossifying fibroma . The people belonging to the age group of 41-60years were more prone to moderately differentiated squamous cell carcinoma and also a few were affected by well differentiated squamous cell carcinoma. The people who are above 60years were maximum affected by squamous cell carcinoma and a few with well differentiated squamous cell carcinoma and the rest with moderately differentiated

squamous cell carcinoma[table1.]. And on observing the provisional diagnosis the people belonging to the age group above 60years are more prone to squamous cell carcinoma ,carcinoma alveolus and other types of cancers[table2.]. And on regards with the age group and type of biopsy maximum frequency for excisional biopsy was for the people between 41-60 years and for incisional biopsy the maximum frequency was shown by the people above 60 years and minimum frequency for incisional biopsy for people between 41-60years[table3.]. While observing the treatment duration required for these age groups it was discovered that maximum , people above 60 years needed 7 months of treatment and people within the age group of 41-60years needed 4-6months of treatment and for those below 40 years required 2-5 months of treatment.

On the analysis of the treatment done for the people below 40 years almost everyone were given a surgery and few chemoradiation , for those between 41-60years chemotherapy , radiotherapy was more preferred also a few were given chemoradiation . And this above the age group of 60 years were given all the treatments but the most preferred ones were chemotherapy , surgery and then for a few radiotherapy was given also very few needed chemoradiation[table5.] . All these were based on the age group and this proves us that people who are above 60years are only prone to severe cancers and they require maximum attention.

And based on sex the histopathological report stated that males were more prone to all forms of cancer when compared to females[table6.]. The provisional diagnosis showed that males are prone to squamous cell carcinoma and other forms of cancer and females to carcinoma alveolus and other forms of carcinoma[table7.] The type of biopsy needed for maximum no.of men was excisional biopsy but for females it was incisional biopsy[table8.]. The duration of treatment given to males were maximum of 7 months whereas for females it was 6months[table9.]. The treatment done for majority if the men was surgery , and the rest underwent chemotherapy, radiotherapy , chemoradiation, but Incase of females it was Chemotherapy, a few also underwent radiotherapy and very few were also treated through surgery[table10.].

Age * Histopathology report – table1.

Crosstab

		Histopathology report				Total
		Well differentiated squamous cell carcinoma	Moderately differentiated squamous cell carcinoma	Squamous cell carcinoma	Aggressive cemento-ossifying fibroma	
Age < 40 Years	Count	2	0	0	1	3
	% of Total	10.0%	.0%	.0%	5.0%	15.0%
41 - 60 Years	Count	1	3	1	0	5
	% of Total	5.0%	15.0%	5.0%	.0%	25.0%
> 60 Years	Count	4	3	5	0	12
	% of Total	20.0%	15.0%	25.0%	.0%	60.0%
Total	Count	7	6	6	1	20
	% of Total	35.0%	30.0%	30.0%	5.0%	100.0%

Age * Provisional diagnosis – table2.

Crosstab

		Provisional diagnosis			Total
		Squamous cell carcinoma	Carcinoma alveolus	Others	
Age < 40 Years	Count	2	0	1	3
	% of Total	10.0%	.0%	5.0%	15.0%
41 - 60 Years	Count	3	1	1	5
	% of Total	15.0%	5.0%	5.0%	25.0%
> 60 Years	Count	6	3	3	12
	% of Total	30.0%	15.0%	15.0%	60.0%
Total	Count	11	4	5	20
	% of Total	55.0%	20.0%	25.0%	100.0%

Age * Type of biopsy- table3.

Crosstab

		Type of biopsy		Total
		Excisional	Incisional	
Age < 40 Years	Count	3	0	3
	% of Total	15.0%	.0%	15.0%
41 - 60 Years	Count	4	1	5
	% of Total	20.0%	5.0%	25.0%
> 60 Years	Count	3	9	12
	% of Total	15.0%	45.0%	60.0%
Total	Count	10	10	20
	% of Total	50.0%	50.0%	100.0%

Age * Total duration of treatment (Months)- table4.

Crosstab

		Total duration of treatment (Months)						Total
		2	3	4	5	6	7	
Age < 40 Years	Count	0	2	0	1	0	0	3
	% of Total	.0%	10.0%	.0%	5.0%	.0%	.0%	15.0%
41 - 60 Years	Count	0	0	2	1	1	1	5
	% of Total	.0%	.0%	10.0%	5.0%	5.0%	5.0%	25.0%
> 60 Years	Count	2	2	3	0	3	2	12
	% of Total	10.0%	10.0%	15.0%	.0%	15.0%	10.0%	60.0%
Total	Count	2	4	5	2	4	3	20
	% of Total	10.0%	20.0%	25.0%	10.0%	20.0%	15.0%	100.0%

Age * Treatment done- table 5.

Crosstab

		Treatment done				Total
		Chemotherapy	Surgery	Radiotherapy	Chemoradiation	
Age < 40 Years	Count	0	2	0	1	3
	% of Total	.0%	10.0%	.0%	5.0%	15.0%
41 - 60 Years	Count	2	0	2	1	5
	% of Total	10.0%	.0%	10.0%	5.0%	25.0%
> 60 Years	Count	4	4	3	1	12
	% of Total	20.0%	20.0%	15.0%	5.0%	60.0%
Total	Count	6	6	5	3	20
	% of Total	30.0%	30.0%	25.0%	15.0%	100.0%

Sex * Histopathology report- table 6.

Crosstab

			Histopathology report				Total
			Well differentiated squamous cell carcinoma	Moderately differentiated squamous cell carcinoma	Squamous cell carcinoma	Aggressive cemento-ossifying fibroma	
Sex	Male	Count	5	4	4	1	14
		% of Total	25.0%	20.0%	20.0%	5.0%	70.0%
	Female	Count	2	2	2	0	6
		% of Total	10.0%	10.0%	10.0%	.0%	30.0%
Total		Count	7	6	6	1	20
		% of Total	35.0%	30.0%	30.0%	5.0%	100.0%

Sex * Provisional diagnosis- table7.

Crosstab

			Provisional diagnosis			Total
			Squamous cell carcinoma	Carcinoma alveolus	Others	
Sex	Male	Count	10	1	3	14
		% of Total	50.0%	5.0%	15.0%	70.0%
	Female	Count	1	3	2	6
		% of Total	5.0%	15.0%	10.0%	30.0%
Total		Count	11	4	5	20
		% of Total	55.0%	20.0%	25.0%	100.0%

Sex * Type of biopsy- table 8.

Crosstab

			Type of biopsy		Total
			Excisional	Incisional	
Sex	Male	Count	10	4	14
		% of Total	50.0%	20.0%	70.0%
	Female	Count	0	6	6
		% of Total	.0%	30.0%	30.0%
Total		Count	10	10	20
		% of Total	50.0%	50.0%	100.0%

Sex * Total duration of treatment (Months)- table 9.

Crosstab

			Total duration of treatment (Months)					Total	
			2	3	4	5	6		7
Sex	Male	Count	0	4	3	2	2	3	14
		% of Total	.0%	20.0%	15.0%	10.0%	10.0%	15.0%	70.0%
	Female	Count	2	0	2	0	2	0	6
		% of Total	10.0%	.0%	10.0%	.0%	10.0%	.0%	30.0%
Total		Count	2	4	5	2	4	3	20
		% of Total	10.0%	20.0%	25.0%	10.0%	20.0%	15.0%	100.0%

Sex * Treatment done- table 10.

Crosstab

			Treatment done				Total
			Chemotherapy	Surgery	Radiotherapy	Chemoradiation	
Sex	Male	Count	3	5	3	3	14
		% of Total	15.0%	25.0%	15.0%	15.0%	70.0%
	Female	Count	3	1	2	0	6
		% of Total	15.0%	5.0%	10.0%	.0%	30.0%
Total		Count	6	6	5	3	20
		% of Total	30.0%	30.0%	25.0%	15.0%	100.0%

CONCLUSION:

As mentioned earlier the epidemiological characteristics of head and neck cancer prevalent among people in a dental college in southern India were analysed for the years 2013-2015 and a clear report is given that head and neck cancer is more prevalent for the people of the age group above 60years and also that it is more complicated in males than females.

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