



CLINICO-EPIDEMIOLOGICAL PROFILE OF CARCINOMA OESOPHAGUS PATIENTS ATTENDING A TERTIARY CARE HOSPITAL IN KUMAON REGION OF UTTARAKHAND.

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ABSTRACT

Background: Esophageal Carcinoma is still a predominant disease of developing nations like India, affecting mostly the elderly and rural population. The etiological factors for Esophageal Carcinoma show a regional variation in different parts of India, but tobacco consumption in various forms, alcohol, hot beverages, and poor nutrition remain the predominant predisposing factors. **Aim and Objective:** To study the Clinico-epidemiological profile of Esophageal Carcinoma in Kumaon Region of Uttarakhand. **Material and Methods:** During the period of 2 years 780 UGI endoscopy performed for various indications. 94 histologically proven cases of Esophageal carcinoma included in the study. Their data were analyzed for Clinico-demographic information, residence, dietary habits, tobacco, smoking or alcohol consumption, performance score, presenting symptoms and their correlation with disease parameters. All data were analyzed and arranged in tabulated forms. **Results:** Majority of the patients were from 6th (36.17 %) and 7th (23.04 %) decade of life and male to female ratio was 2.1:1. 66 (70.21 %) patients were from a rural background and most of them were from lower class (38.29 %), lower middle class (44.68 %). Mix diet was consumed by 65 (69.14 %) most of the patients. 79 (84.04 %) patients were regular smoker and Tobacco and alcohol consumed by 54 (57.44 %), 64 (68.08 %) patients respectively. The majority of the patients had "Eastern Cooperative Oncology Group" performance score (PS) of "I" at presentation. Dysphagia was the most common presenting symptom (87.23 %). The most common site was lower one third. 87 had Squamous cell Carcinoma (92.50 %). Liver was the most common site for distant metastasis (9.57 %). **Conclusion:** Squamous cell carcinoma is still far more common than Adeno Carcinoma in India. The lower one third of esophagus was the most common site in our study. Old age, male sex, and low socio-economic status coupled with different dietary habits seem to be the prime determinants.

KEY WORDS : Epidemiology, Esophageal cancer, Incidence, Uttarakhand

Introduction:

Esophageal carcinoma (EC) is the eighth most common cancer worldwide with a case fatality rate of 90%,¹ with highest geographic, ethnic, and gender variations.² A rising incidence of Esophageal Adenocarcinoma (EA) noted all over world especially in developed country³ but in India Squamous cell carcinoma is more common.⁴ In India, as per WHO, Globocon 2018, esophageal cancer is the 6th most common cancer with incidence of 5.04%. It is 5th most common cancer in males and 6th most common cancer in females.⁵ The male to female ratio in India is 2.4:1.5. A very high incidence of esophageal cancers has been reported in North-East region of India. This is a part of an esophageal "cancer belt," which extends from northeast China to the Middle East, where incidence rates of Squamous cell carcinoma of the esophagus have been reported as high as 100 cases per 100,000 annually.⁵ Cancer of the esophagus is the leading site in the registries in the states of Assam, Meghalaya, Mizoram, and Nagaland.⁵

The major risk factors for Squamous cell carcinoma esophagus include poor nutritional status, low intake of fresh fruits and vegetables, consumption of hot beverages, excess tobacco and alcohol consumption, and possibly human papillomavirus infection. Understanding the etiology of esophageal cancer could not give a fair idea of the pattern of cancer incidence emerging in various regions or parts of the country.⁶ Published data from different regions in India have indicated their observations on the local risk factors. For example, the northern state of Kashmir, smoking (hookahs), snuff, sundried spices and vegetables, hot salted tea with baking soda, and red chilies have been implicated as risk factors.⁷ ICMR data indicate a very high incidence of cancers in

general and tobacco-related cancers in particular, in the northeastern region. Another publication from Ludhiana, Punjab, looked at the risk factors of esophageal Squamous cell carcinoma in women (who generally neither smoke nor consume alcohol), Poor nourishment and consumption of hot beverages were found to be linked to Squamous cell carcinoma in this study.⁸ Squamous cell carcinoma is predominantly seen in upper two-thirds of esophagus unlike Adenocarcinoma, which is seen in lower one third. Currently, Squamous cell carcinoma is the most common type of esophageal cancer in the Indian subcontinent and the most common location is the distal third of the esophagus.⁴

The outcome of Esophageal Carcinoma has been dismal even with the modern surgical, radiotherapy techniques, targeted molecules and newer chemotherapeutic agents, owing primarily to the late presentation of the disease. This study has been undertaken for a better understanding of the association between risk factors, clinical profile, and disease parameters in patients with carcinoma esophagus.

Material and Methods:

This Retrospective Observational study was conducted in the Department of Medicine, Government Medical College Haldwani, Uttarakhand, from January 2005 to December 2006. A total of 780 Patients on whom Upper Gastro Intestinal endoscopy was performed for various indications analyzed. Histologically proven cases of Esophageal carcinoma were enrolled. Data were then analyzed for information such as age, sex, educational and socioeconomic background, residence, dietary habits, tobacco, smoking, alcohol consumption, performance score, presenting

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symptoms and their correlation with disease parameters such as endoscopic features, tumor location, histology, and stage of the disease. All data were analyzed and arranged in tabulated forms

Results:

During the period of 2 years 780 UGI endoscopy performed for various indications and 94 (12.10 %) of them came out to be Esophageal carcinoma. Majority of the patients were from 6th (36.17 %) and 7th (23.04 %) decade of life and male (68.08 %), with age varied 34 to 72 years, mean (54.67 +/- 9.6) and male to female ratio was 2.1:1. The majority of the patients (51%) in both the sexes were above 50 years of age. 66(70.21%) patients were from a rural background. Most of them were from lower class (38.29 %), lower middle class (44.68 %), illiterate (34.04 %) or educated up to Junior high school (44.68 %). Shown in Table 1 and 2.

Mix diet (Veg +Nonveg) was consumed by 65 (69.14 %) patients. 79 (84.04 %) patients were regular smoker and Tobacco and alcohol consumed by 54 (57.44 %), 64 (68.08 %) Patients respectively. Most of them were from rural areas. Majority of the patients in both the genders; had "Eastern Cooperative Oncology Group" performance score (PS) of "I" at presentation, Table 2.

Overall dysphagia was the most common presenting symptom in both the sexes 82 (87.23%) followed by loss of appetite 77 (81.91%) and loss of weight 60 (63.82 %), Table 3

Ulceroproliferative growth 49(52.12%) was the most common endoscopic finding and most common site was lower one third, 87(92.50%) had Squamous cell Carcinoma on histopathology followed by adenocarcinoma 6 (6.30 %) and only one had mix picture. Shown in Table 4.

On the whole, liver was the most common site for distant metastasis with 9(9.57%) patients, followed by lung 4 (4.25%), brain 2 (2.12 %), and bone metastasis 1 (1.06 %) respectively. Shown in Table 5.

Discussion:

The incidence of Esophageal carcinoma (EC) is rapidly increasing worldwide.9 Nearly two third of ECs in the United States are Adenocarcinomas,10 whereas in Asian nations squamous cell cancer continues to be the major histological type.11 Esophageal cancer is predominantly a disease of the elderly, where nearly one third of the diagnosed patients are more than 75 years of age.12 The lifetime risk of Esophageal carcinoma is reported to be 0.8 for males and 0.3 for females and mean age of diagnosis is 67 years.13 The majority of the patients in our study were above 50 years age with predominantly males and male to female ratio was 2.1:1. About 90% of Esophageal carcinoma worldwide occur in defined high incidence areas of low and middle-resource countries and economically deprived communities.14 Most of the patients in our study were also from a rural background with a low socio-economic status. Dysphagia is one of the most common and predominant presenting symptom of esophageal carcinoma.15 82(87.23 %) of the patients in our study also had dysphagia. Most common site for Adenocarcinoma is distal third of esophagus, whereas Squamous cell carcinomas are more evenly distributed throughout the distal two-thirds16, however in our study, distal one-third was the most common site for lesion. Squamous cell carcinomas still the predominant histological subtype in Asian nations17. In our study squamous cell carcinoma was also the most common histological subtypes.

A study done in Japan and in 400 Esophageal carcinoma patients, two most frequent morphological types were noted "ulcerative localized" and "ulcerated infiltrative".18 In our study Ulceroproliferative pattern was the most common endoscopic appearance, irrespective of histological types.

Approximately one-third of Esophageal carcinoma patients are

loco-regionally advanced stage at presentation and liver is the most common site of distant metastasis.17 In our study also most of them had locoregional spread and Liver was the most common site of metastasis (9.57 %) followed by lung (4.25 %), only few patients had bone and brain metastasis.

Conclusion: Esophageal carcinoma is a common Gastro intestinal tract malignancy and said to be multifactorial in origin. The present study revealed the same. Old age, male sex, and low socio-economic status coupled with peculiar dietary habits, tobacco, smoking and alcohol consumptions were seem to be the prime determinants. So focusing on primary prevention and early detection of disease is an important steps in management of Esophageal carcinoma.

TABLES

Table 1 : Socio Demographic Pattern (n=94)

Age (in Years)	No.	Percentage (%)
31- 40	18	19.14
41-50	20	21.27
51-60	34	36.17
Above 60	22	23.40
Mean +/- SD	54.6 +/- 9.6	
Sex		
Males	64	68.08
Females	30	31.91
Male: Female ratio	2.1 : 1	
Socio-Economic status		
Upper Class	06	06.38
Upper Middle Class	10	10.63
Lower Middle Class	42	44.68
Lower Class	36	38.29
Educational Status		
Illiterate	32	34.04
Up to Junior Highschool	42	44.68
Up to intermediate	17	18.08
Graduate	03	03.19

Table 2: Patient characteristics, (n = 94)

Patient parameters	No	Percentage (%)
Residence		
Rural	66	70.21
Urban	28	29.78
Dietary habits		
Vegetarian	29	30.85
Mix diet	65	69.14
Tobacco consumption		
Yes	54	57.44
No	40	42.55
Smoking		
Yes	79	84.04
No smoking	15	15.95
Alcohol consumption		
Yes	64	68.08
No	30	31.91
Performance score (ECOG)		
0	22	23.40
I	47	50.00
II	18	19.14
III	07	07.44

Table 3: Patients Symptomatology: (n = 94)

Presenting symptoms	No	Percentage (%)
Dysphagia	82	87.23
Odynophagia	17	18.08
Vomiting	02	2.12

Hematemesis	01	1.06
Melena	04	4.25
Loss of appetite	77	81.91
Loss of weight	60	63.82

Table 4: Upper G.I. Endoscopy and Histopathological findings (n=94)

Endoscopic appearance	No	Percentage (%)
Protuding Nodular mass	06	6.38
Ulcerated	32	34.04
Ulcer- proliferative	49	52.12
Infiltrating	07	7.44
Histopathological Finding		
Squamous cell carcinoma	87	92.50
Adenocarcinoma	06	06.30
Mix Pattern	01	1.06

Table 5:Metastatic sites (n= 94)

Organs	No	Percentage (%)
Liver	09	9.57
Lung	04	4.25
Brain	02	2.12
Bone	01	1.06

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