Original Research Paper

Volume - 7 | Issue - 7 | July - 2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 79.96

Clinical Research

CLINICO-EPIDEMIOLOGICAL STUDY OF ESOPHAGEAL CANCER IN NORTH-EAST INDIA

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ABSTRACT

Aim: Clinico-epidemiologic pattern of esophageal cancer: A 4 years results from a regional cancer centre in North-Eastern India.

Materials and method: A cross sectional study was undertaken at regional cancer centre, Agartala. Medical records of 270 patients who were registered from January 2012 to December 2015 were reviewed for clinico-epidemiological data and analysed.

Results: Out of 270 patients 65.55% cases were male and 34.44 %(93) female. Median age at presentation was 58 years. Most of the primary tumor were located in the middle 1/3 and was 44.81 %(121). Squamous cell carcinoma was found 87.77 %(237) cases. Patients presented in stage III 62.59 %(169) cases. Tobacco and tobacco products user was observed in 68.88 %(186) cases. Dysphasia and weight loss was found in 81.11 %(219) and 70.74 %(191) cases respectively. Voice changes was observed in 6.29 %(17) cases.

Conclusion: Esophageal carcinoma was found to affect more males than female. Most of the patients presented in locally advanced stage. Food habits, consumption of alcohol, tobacco and tobacco products used may be contributing risk factors but further study warranted.

KEYWORDS : Esophageal cancer, Clinico-epidemiology, North-East India.

Table- 1: Showing patients characteristics

Age distribution	
Age in years	
Range	62
Median	58
30-39	08(02.96%)
40-49	33(12.22%)
50-59	98(36.29%)
60-69	83(30.74%)
>70	48(17.77%)
Sex distribution	
Male	177(65.55%)
Female	93(34.44%).

Table-2: shows performance status of patients

Karnofsky score	
90-100%	00
80-90%^	97(35.92%)
70-80%	130(48.14%)
60-70%	43(15.92%)

Table- 3: showing tumour characteristics

Histopathology	
Squamous	237(87.77%).
Adenocarcinoma	32(11.85%)
Others	08(02.96%)
Location of primary lesion	
Upper 1/3	116(42.96%)
Middle 1/3	121(44.81%)
Lower 1/3	33(12.22%)
Stage	
I	00
IIA	29(10.74%)
IIB	69(25.55%)
III	169(62.59%)
IV	03(01.11%)

Table-4: Presenting complains of patients:

Dysphasia	219 (81.11%)
Weight loss	191(70.74%)
Regurgitation	79(29.25%)
Cervical lymph node metastasis	37(13.70%)
Voice changes	17(06.29%)

Table -4: displaying dietary habits of patients:

Tobacco products users	186(68.88%)
Chewing betel nut	199(73.70%)
Vegetarian	46(17.03%)
Non- vegetarian	254(94.07 %)

Introduction:

Esophageal cancer is the sixth most common cause of cancer death worldwide[1]. Esophageal cancer shows wide geographical variation[2]. This cancer is also influences by ethnicity and gender[2,3]. The disease is more common in East Asian countries such as China and Singapore[4,5]. This cancer increases with ages with highest incidence rates in the age group of 50-70 years[6]. The symptoms of esophageal cancer are gradual onset and increases with stages[5,7].

Esophageal cancer is one of the leading cancers in North-East (NE) India[5,8]. This part of India is the home of different ethnic groups with different social, cultural and dietary habits. Most of the people in this region survived on rice, meat, and fish. People here consumed a lot of salted dry, fermented fish and smoked meat too. There seems to be increased in the trend of alcohol, tobacco and tobacco products uses. The chewing of betel nut by women folks is common in this part of country. These differences in the habits of people, leading to varying different clinico-epidemiologic variation of malignancies needed to be documented for the use of community intervention at the earliest.

The purpose of this study is to conduct detailed evaluation of clinico-epidemiologic profile of esophageal cancer in North-East India.

Materials and method:

A retrospective cross sectional study was undertaken by using data base of 270 No. patients with confirmed diagnosed esophageal cancer registered at regional cancer centre, Agartala, Tripura, from January 2012 to December 2015.

Data including age, sex, tumour stage, location, laboratory tests, medical records, physical examination findings were collected and descriptive statics range, median, frequency and percentage were analysed. No analysis for statistical significance was used.

Results:

Out of 270 diagnosed esophageal cancer patients, male included 65.55 %(177) and female was 34.44 %(93) with a male to female ratio 1.9: 1. Maximum patients (36.29%) belonged to the age group of 50-59 years with the median age at presentation was 58 (table-1).

The primary tumour were located mostly in upper and middle third

44.81 %(121) and 42.96 %(116) respectively. Squamous cell carcinoma was the predominant histology with 87.77% (237) and patients with adenocarcinoma constituted 11.85 %(32) (table-3).

Clinically majority of patients presented with dysphasia, at the time of diagnosis, was 81.11%. In this study, we found that non-vegetarian 94.07 %(254), history with consumption of tobacco and products, chewing betel nuts were 186(68.88%) and 73.70 %(199) respectively (table -5).

Karnofsky score was found 70-80% in 48.14% (130) cases (table-2). Weight loss, voice change, and cervical lymphadenopathy was observed in 70.74 %(197), 6.29 %(17), 37.70 %(79) cases respectively.

Discussion:

The esophageal cancer is increasing everywhere around the world[3]. Males are more affected than female by the disease[9, 10, 11, 12]. Various risks factors implemented such as salty food, use of tobacco products, areca nuts etc[13, 14, 15]. The disease is more common in Linxiang province of china. In our study, we found the disease is male preponderance 65.55% against 34.44% females and is comparable to the study done by Mustafa SA et al[16], who showed the disease affected males were higher than females. Most of the patients presented with stage III (62.59%) which is comparable to the study done by Shinoda et al[17], Adelstein DJ et al[18], and Bremer et al[19], where they also found in their study that majority of the patients were presented in stage III, about 40-60% cases.

Dysphasia is one of the most common symptoms and constituted 81.11% in our cases. Weight loss is also an accompanying symptom of esophageal cancer and accounted 70.74% (table-4). Karnofsky score was 60-70% in most of the patients. This data are comparable to the study by Minsky BD et al, who showed similar patients' characteristics[20].

In our study, we found that proximal part of the esophagus, comprising upper third and middle third, is mostly affected by esophageal cancer and were 42.96% and 44.81% respectively. The results are comparable to the results of JCOG 0303[17]. Among the proximal part of esophagus middle third is the most commonly affected one and is comparable to the study by Suh YG et al[21].

Conclusion:

Esophageal cancer is increasing worldwide. Characteristics of patients and disease are similar to rest of India. Majority of patients (62.59%) in North-East, represented with locally advanced stage (stage-III) disease at the time of diagnosis and dysphasia was the most common symptom. From this study we found that most of patients belonged to the age group of 50-59 years. Increasing in consumption of alcohol, tobacco and tobacco products may be contributing risk factors but because of small in patients' number, lack in related research work in North-East region, couldn't ascertain causative risk factors and further studies is warranted.

Conflict of interest:

The authors affirm no conflict of interest in this study.

Reference:

1. Jamel A, Bray F, Center MM, Ferlay J, Ward E Forman D. Global cancer statistics. CA Cancer J Clin 2011; 61(1): 69-90.
2. Ferlay, J, Shin, HR, Bray, F, Forman, D, Mathers, C, Parkin, DM. Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. Int J Cancer 2010; 127(12): 2893–2917.
3. Zhang Y. Epidemiology of esophageal cancer. World J Gastroenterol 2013; 19(34): 5598–5606.
4. Coley DA, Buffler PA. Oesophageal and gastric cardia adenocarcinoma: Analysis of regional variation using the cancer incidence in five continents database. Intl J Epidemiol 2001; 24(1): 1415-25.
5. Despande RK, Patil P, Sharma V, Mohanti BK. Cancer of the esophagus. In: Rath GK, Mohanti BK, editors. Text book of Radiation oncology Principle and practice. 1st ed. New Delhi: Reed; 2007. P.305-06.
6. Lightdale CJ. Esophageal cancer: Practice Guidelines for Esophageal Cancer. Am J Gastroenterol 1999; 94(1): 20-29.
7. Czito BG, Denittis AS, Willett CG. Esophageal cancer. In: Perez CA, Brady LJ, editors. Principle and practice of Radiation Oncology, Sixth ed. Philadelphia, PA: Lippincott; 2013. p. 995-1021.
8. Phukan RK, Ali MS, Chetia CK, Mahanta J. Betel nut and tobacco chewing; potential risk factors of cancer in Assam, India. Br J Cancer 2001; 85(5): 661-67.
9. Schrump D, Altorki N, Forastiere A, Minsky BD. Cancer of the esophagus. In: DeVita VT Jr, Hellman S, Rosenberg SA, eds. Cancer: Principles and Practice of Oncology, Sixth Edition. Philadelphia, PA: Lippincott-Williams & Wilkins; 2001.p.1319–42.
10. Blot WJ, Li JY, Taylor PR, Guo W, Dawsey S, Wang GQ, et al. Nutrition Intervention Trials in Linxian, China: Supplementation With Specific Vitamin/Mineral Combinations, Cancer Incidence, and Disease-Specific Mortality in the General Population. J Natl Cancer Inst 1993; 85(18): 1483-91.
11. Bolschweiler E, Wolfgarten E, Gutschow C, Holcher AH. Demographic variation in the rising incidence of esophageal cancer in white males. Cancer 2001; 92(3): 549-55.
12. Lagergren J and Lagergren P. Recent developments in esophageal adenocarcinoma. CA Cancer J Clin 2013; 63(4): 232-48.
13. Chitra S, Asok L, Anand L, Srinivasan V, Jayanthi V. Risk factors for esophageal cancer in Coimbatore, southern India. Indian J Gastroenterol 2004; 23(1):19-21.
14. Akhtar S, Seikh AA, Quresi HU. Chewing areca nut, betel, quid, oral snuff, cigarette smoking and the risk of esophgeal squamous cell carcinoma in south Asians: A multi centre case- control study. Eu J Cancer 2012; 48(5)): 655-62.
15. Mariette, Finzi L, Piessen G, Seuningen VI, Tribulet JP. Esophageal carcinoma: prognostic differences between squamous cell carcinoma and adenocarcinoma. World J Surg 2005; 29(1): 39-45.
16. Mustafa SA, Banday SF, Bhat MA, Patigaroo AR, Mir AW, Bhu KS. Clinico-Epidemiological profile of esophageal cancer in Kashmir. Intl J Sc Stud 2016; 3(11): 197-201.
17. Shinoda M, Ando N, Kato K, Ishikura S, Kato H, Tsubosa Y, et al. Randomized study of low-dose versus standard-dose chemoradiotherapy for unresectable esophageal squamous cell carcinoma (JCOG0303). Cancer Sci 2015; 106(4): 407–12.
18. Adelstein DJ, Li Y, Adams GL, Wagner H Jr, Kish JA, Ensley JF, et al. An intergroup phase III comparison of standard radiation therapy and two schedules of concurrent chemoradiotherapy in patients with unresectable squamous cell head and neck cancer. J Clin Oncol 2003; 21(1): 92–98.
19. Brenner B, Ilson DH, Minsky BD. Treatment of esophageal cancer. Semin Oncol 2004; 31(4): 554-65.
20. Minsky BD, Pajak TF, Ginseng RJ, Pisansky TM, Martenson J, Komaky R, et al. INT 0123(Radiation therapy Oncology Group 94-05) phase III trial of combined-modality therapy for esophageal cancer: high-dose versus standard-dose radiation therapy. J Clin Oncol 2007; 20(5): 1167-74.
21. Suh YG, Lee IJ, Koom WS, Cha J, lee JY, Kim SK, et al. High-dose Versus Standard-dose Radiotherapy with Concurrent Chemotherapy in Stages II–III Esophageal Cancer. Jpn J Clin Oncol 2014; 44(6): 534–40.