

## ORIGINAL RESEARCH

# Cancer Epidemiology of Upper Gastrointestinal Cancers in general and Esophageal Cancer in particular in Kashmir

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## ABSTRACT

**Introduction:** Cancer is one of the leading causes of death worldwide. Overall age adjusted cancer mortality is decreasing but the burden on community is increasing. Similarly high rates are seen in Indian Subcontinent particular for Kashmir Province. In Gastrointestinal Cancer it has been seen that cancers of the right colon have become more common, whereas sigmoid colon or rectal cancers have diminished.

**Material Methods:** In this study a data pool from SKIMS was collected and an Analysis of Data was done and Subdivided into Appropriate Groups. The Number of cases in Surgical Gastroenterology was studied and on basis on diagnosis, an allocation of data was done. The percentage of individual cases was evaluated and presented. Cases were differentiated on basis of infective pathology, Tumors, Injuries as per systematic norms.

**Result:** It has been noted that the incidence of tumors of Gastric are on the rise in Kashmir particularly the esophageal cancers. This being apex tertiary care Institute of the state it receives referred patients from all parts of the state including Jammu and Ladakh. The Data would help to formulate a proper referral policy for the state.

**Conclusion:** Evidence suggests the association of multiple environmental factors responsible for tumors of gastrointestinal tract. The article provides a brief outline of cancers prevalence in Kashmir admitted to SKIMS Soura and of particular interest the Epidemiology associated with Esophageal cancer in general.

**Keywords:** Cancer, metaplasia, Barret, esophageal

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## INTRODUCTION

Cancer is one of the leading causes of death worldwide. Overall age adjusted cancer mortality is decreasing but the burden on community is increasing. Both the Morbidity and mortality from many forms of cancer can be controlled through primary or secondary prevention. Primary prevention can be defined as risk modification to lower cancer multiple factors are responsible for different Cancers.<sup>1-3</sup> Cancers of Gastrointestinal tract constitute a major burden for population throughout the world especially in the Jammu and Kashmir State.

## MATERIAL AND METHOD

The Study as conducted at SKIMS. The data was collected, analysed and grouped. The Number of cases in Surgical Gastroenterology was studied and on basis on diagnosis, an allocation of data was done. The percentage of individual cases was evaluated and presented. Cases were differentiated on basis of infective pathology, Tumors, Injuries as per systematic norms.

## RESULTS

Study showed the highest prevalence of gastric cancer and least was shown by common bile duct. Carcinoma of esophagus was the most common seen in the patients reported. Table 1 shows the disease wise distribution of Medical Oncology patients and Table 2 demonstrates the disease wise distribution of Medical Oncology patients.

## DISCUSSION

Sheri Kashmir Institute of Medical Sciences, Srinagar is a 700 hundred bedded tertiary care centre, which has the facilities of inpatient care, outpatient facilities, day care units, round the clock diagnostic facilities in addition to advanced laboratory services.

Exceptionally high rates are found for esophageal cancer, stomach cancer in Japan, and liver cancer in Asia and sub-Saharan Africa.<sup>1</sup> In the United States, nearly one fifth of all cancers arise in the digestive tract, most often in the colon or rectum. Similarly high rates are seen in Indian Subcontinent particular for Kashmir Province. In Gastrointestinal Cancer, it has been seen that cancers of the right colon have become

<b>Surgical Gastroenterology</b>	
Gastric Cancer	67 (11.3)
Cholelithiasis	54 (9.1)
GB Mass	48 (8.1)
Choledocholithiasis	47 (7.9)
Common Bile Duct Stone	40 (6.7)
Hydatid Cyst	35 (5.9)
Bile Duct Injury	32 (5.4)
Biliary Colic	30 (5.1)
Typhoid fever	29 (4.9)
Bilateral Hepatolithiasis	21 (3.5)
Post Cholecystectomy pain	18 (3.0)
Portal Hypertension	18 (3.0)
CA Pancreas	17 (2.9)
Gut perforation	17 (2.9)
Splenectomy	16 (2.7)
Dilated Pancreatic Duct	16 (2.7)
Retro-peritoneal Tumour	16 (2.7)
Pancreatic Cyst	15 (2.5)
Liposarcoma	15 (2.5)
Mass Pelvis	13 (2.2)
Acute Pancreatitis	12 (2.0)
Peritonitis	11 (1.9)
Common Bile Duct Stricture	7 (1.2)
<b>Table-1: Disease wise distribution of Medical Oncology patients</b>	

<b>Medical Oncology</b>	<b>n (%)</b>
Carcinoma Oesophagus	119 (11.9)
Carcinoma Colon	54 (5.4)
Carcinoma Rectum	46 (4.6)
Carcinoma Stomach	31 (3.1)
Ewing's Sarcoma	15 (1.5)
<b>Table-2: Disease wise distribution of Medical Oncology patients</b>	

more common, whereas sigmoid colon or rectal cancers have diminished. Death rates from stomach cancer have declined by approximately 90% over the past 60 years, possibly because of improvements in food preservation and decreased consumption of salted, pickled, and smoked foods. Suspected dietary factors in large bowel cancers include excess consumption of animal fat and red meat, low fiber consumption, and excess total caloric intake, particularly among men.<sup>2,3</sup> Recommended dietary changes to reduce cancer risk include controlling caloric intake, decreasing fat consumption of total daily caloric intake, and increasing consumption of fresh fruits and vegetables.<sup>4</sup> These dietary modifications might also reduce the risk of cardiovascular diseases. Ongoing randomized trials of dietary modification and nutrient supplementation may shed new light on causation and prevention of gastrointestinal and other cancers.<sup>5</sup> *Helicobacter pylori* infection increases the risk of both gastric adenocarcinoma and gastric lymphoma of mucosa-associated lymphoid tissue (MALT). Treatment of *H. pylori* infection with antibiotics has resulted in cures of early MALT tumors and may de-

crease gastric cancer risk in infected patients. Studies have identified a number of causes of oropharyngeal cancer. The major etiologic factors for these neoplasms are tobacco and alcohol consumption.<sup>5,6</sup> In combination, these two agents multiply the risk of oral cancer. Although epidemiologic studies strongly implicate alcohol as a causal factor, a carcinogenic effect of ethanol has not yet been demonstrated in laboratory animals. Alcohol may act primarily by damaging the oral mucosa, thereby increasing the effects of tobacco. Heavy drinkers tend to have a poor diet, which may also promote carcinogenesis. The incidence rates of adenocarcinomas of the esophagus and gastric cardia are steadily increasing, particularly in white males, but the explanation is uncertain. Risk of esophageal adenocarcinoma is greatly increased by recurrent reflux esophagitis, which is associated with histologic changes known as Barrett's esophagus. Smoking has also been implicated as a risk factor for adenocarcinoma of the esophagus and gastric cardia. Barrett's Esophagus: Normally the Oesophagus is lined by squamous epithelium. In Barrett's Oesophagus the junction of squamous oesophageal mucosa and columnar gastric mucosa moves proximally. There is Metaplasia of lower oesophageal squamous epithelium to columnar epithelium in response to chronic GERD.

Complication of Barrett's Oesophagus are Peptic ulcer (Barrett's ulcer), Stricture (usually in middle or upper Oesophagus), Dysplasia (Adenocarcinoma) and Perforation. Esophageal Cancer: Usually occurs in elderly males with Age: > 50 years. Two types of cancers occur: Squamous cell Ca (MC) and Adeno Carcinoma Squamous cell Cancer mostly arise in middle one-third Adeno Carcinoma mostly arises in distal 1 / 3<sup>rd</sup>. Over all MC site of Cancer of Oesophagus: Lower = distal 1 / 3<sup>rd</sup>.

The Premalignant Conditions predisposing to cancer are Barrett's Oesophagus, Chronic GERD, Congenital hyperkeratosis (Tylosis Palmaris) Plummer Vinson syndrome, Radiation induced stricture and Smoking is the most important predisposing factor for both types

Etiologic factors for Esophageal cancer are Achalasia cardia, Barrett's Oesophagus, Bulimia, Caustic burn, Celiac sprue, Chronic gastric reflux, Cigarette smoking, Congenital hyperkeratosis and pitting of the palms and soles (i.e. Tylosis Palmaris et. Plantaris), Dietary deficiency of molybdenum, zinc, vitamin A, Diverticula, Excess alcohol consumption, External beam radiation (causes mediastinal fibrosis), Mucosal damage from physical agents: Other ingested carcinogens: (Nitrates: Smoked opiates; Fungal toxins in pickled vegetable). Plummer-Vinson Syndrome or Peterson-Kelly syndrome ( esophageal web with glottis and iron deficiency anemia)

**CONCLUSION**

It has been noted that the incidence of tumors of Gastric are

on the rise in Kashmir particularly the esophageal cancers. This being apex tertiary care Institute of the state it receives referred patients from all parts of the state including Jammu and Ladakh. With increase in the awareness of health care among masses there has been a tremendous increase in the work load of patients visiting the hospital thereby putting extra burden on the existing facilities of the hospital. Sher-I-Kashmir Institute of Medical Sciences (SKIMS) being the apex institute for the referral system in the state was selected for studying the profile of patients visiting its outpatient department and identifying various referral centres as well as their reasons for referral in order to develop and formulate a proper referral policy for the state.

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