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A Prospective Study on Carcinoma Stomach

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Abstract:
Introduction: *Carcinoma of the stomach was the leading cause of cancer-related death worldwide through most of the 20th century. In many parts of the world, however, the incidence of gastric cancer has gradually decreased, principally because of changes in diet, food preparation, and other environmental factors. In India it is fourth common malignancy and second common cause of death due to malignancy. The detection of early gastric cancer in India is still less than 10%.[1]*
Objectives: *The present study is to discuss about the incidence, risk factors, clinical features, and management of carcinoma of stomach.*
Methodology: *All the patients who came to surgery dept in SRM Medical college and research centre during the period July 2014 to june 2015 with histopathologically proven carcinoma stomach were included in the study.25 patients are taken up for syudy based on inclusion and exclusion criteria.*
Results: *Carcinoma stomach was more common in 4th-6thdecade .In this study it seen more in the age group from 51-60 yrs of age. The youngest patient was 32 yrs and oldest was 80 yrs. Pallor and loss of weight were seen in >80% of patients. Visible gastric peristalysis and palpable mass abdomen were seen in about 40% of patients. 40% of patients were smokers and alcoholics. 64% of patients took spicy foods regularly. Antrum and pyloric canal were most common sites of carcinoma of stomach accounting for 72% of all cases,followed by lesser curvature 12% and cardia 8%.*
Conclusion: *The incidence of gastric carcinoma increases after the 5th decade of life. Consumption of spicy food ,alcohol and smoking are the important risk factors. Antrum and pylorus are the most common sites of carcinoma of stomach. Majority of the malignancies are poorly differentiated adenocarcinomas in histologically.*
Keywords: *antrum,carcinoma,dietary,histology,stomach.*

I. Introduction

Gastric carcinoma was the most common cancer worldwide in the 1980s. There is substantial geographic variation in the incidence of gastric carcinoma internationally, with higher rates in Japan and some parts of South America and lower rates in Western Europe and the United States.[2] In the United States, gastric cancer is now the seventh most common cause of cancer - related death, although a century ago it was the most common cause. Incidence rates increase and survival decreases with increasing age of the population.[9]

Gastric cancer in the United States is twice as common in men as it is in women, and the incidence is higher among U.S. black men than white men.[5]

Billroth 1885 performs a successful distal gastrectomy and gastrojejunostomy (Billroth II) for gastric cancer.[4] Braun 1893, described jejunojejunostomy as routine addition to gastrojejunostomy. . In 1911, Polya described partial gastrectomy. Wide lymphatic resection was described by Appleby in 1952, who reported a case of a patient with a tumor in body of stomach.[7]

Approximately 95% of all malignant gastric neoplasms are adenocarcinomas, in general, the term gastric cancer refers to adenocarcinoma of the stomach. Other malignant tumors are very rare and include squamous cell carcinoma, adenoacanthoma, carcinoid tumors, and leiomyosarcoma.[8] Although no normal lymphoid tissue is found in the gastric mucosa, the stomach is the most common site for lymphomas of the gastrointestinal tract[3] risk factors include Helicobacter pylori,Family history,Diet ,Tobacco usage,Ebstein barr virus.

Family history of gastric cancer is observed in 10% - 15% ofcases especially with diffuse type.Elevated risk (2 to 3 fold) is observed in first degree relatives. In Hereditary non polyposis colorectal cancer (HNPCC) type II (Lynch syndrome) 5% to 10% of all carcinomas originate from the stomach.In Juvenile polyposis there is 12% chance of gastric cancer.In FAP (Familial adenomatous polyposis) the risk of carcinoma stomach is 10 fold higher than general population[6]

AIM OF OUR STUDY ARE

To study the different clinical presentations of carcinoma of stomach. To study the occurrence of the growth of carcinoma regarding the anatomical site of the stomach and their pathological variant.To study and evaluate the various surgical modalities for carcinoma of stomach and their complications.

II. Materials And Methods

All the patients who came to surgery dept in vydehi institute of medical sciences and research centre during the period January 2011 to April 2012 with histopathologically proven carcinoma stomach were included in the study.

Inclusion criteria :Patients with pathologicaly proven ca.stomach, Both male and female patients are included.

Exclusion criteria :patients with inoperable carcinoma of stomach, patients with post chemotherapy recurrence.

III. Results

Sex Distribution:

Gastric cancer was found in 20(80%) males and 5(20%) females in this study. Ratio of male and female is 4:1.

Age& Sex Distribution

Carcinoma stomach was more common in 4^{th}-6^{th}decade .In this study it seen more in the age group from 51-60 yrs of age. The youngest patient was 32 yrs and oldest was 80 yrs.

Clinical Features

Pain in upper abdomen manifesting as retrosternal pain and dyspeptic symptoms like nausea and vomiting were the most common modes of clinical presentation. Pallor and loss of weight were seen in >80% of patients. Visible gastric peristalysis and palpable mass abdomen were seen in about 40% of patients.

Risk Factors

In this study, 40% of patients were smokers and alcoholics, 20% of patients were tobacco chewers. 64% of patients took spicy foods regularly.4%(1 patient) had underwent truncal vagotomy with post gastrojejunostomy(>10yrs)in 1996 has come with carcinoma.

Site Of Growth

Antrum and pyloric canal were most common sites of carcinoma of stomach accounting for 72% of all cases,followed by lesser curvature 12% and cardia 8%.

Histopathology

In this study 52% were well differentiated. About 36% were poorly differentiated of which 3 of them had signet ring pattern of cells.12% of patients had moderately differentiated adenocarcinomas

Surgical Modalities

In my study (16%) 4 patients underwent partial gastrectomy ,3(12%) patients total radical gastrectomy and 4(16%)patients subtotal gastrectomy.9(36%) patients underwent distal radical gastrectomy with billroth-II, 2(8%) patients underwent distal radical gastrectomy with billroth-I and palliative gastrectomy was done in 3(12%) patients.

IV. Discussion

Gastric cancer is more common in males with the global age-standardized incidence for males about 2.2 times higher than for females. Male preprondrance (2:1) is encountered world wide. Males had higher rates in all regions. Men have a greater exposure to one or more environmental carcinogens and are more susceptible. similar observations were made in this study .

A study done by Afuwape et al 2012 shows increase with age increases the incidence of carcinoma of stomach with mean age of 56 yrs.

In our study there is similar type of results that shows increase incidence of carcinoma of stomach with increase in age. In our study there is increase in incidence found in the age between 5^{th} and 6^{th} decade. Abdominal pain was the major symptom reported in a study by Safee et al[31]. Loss of weight was also seen singnificant. In our study 22(88%) pts had abdominal pain and loss of weight present for 19 pts with 76% , nausea and vomiting was present in 11(44%) and 20(80%) patients respectively .

Ireland study cancer trends of stomach 2011 showing proximal tumors are more common than distal tumors. In this study 29% of patients had growth in cardia compared to pyloric antrum was 21%.with fundus 7% and body 6%. In this study majority of the tumors are distal tumors with 72%(18) patients ,with 4%(1) of the tumor in the fundus and 8%(2) patient was present in body of the stomach. These findings show more of distal carcinomas .These findings are correlating with a study conducted in south India by cherian et al showing distal carcinomas are of 67.31%(1157 of pts) .

In the study conducted by safee et al the poorly differentiated carcinomas are more common (43%)203 pts which corresponds to our study (52%) 13 patients had poorly differentiated adenocarcinomas.this is comparable with our studies which shows majority are poorly differentiated carcinoma(52%).

In the study done in 2009 by Kolev N et al there are 54% of complication with mortality of 6%. Post op complications included in my study was anastomosis leak in 1(4%) patient and most common post op complication were respiratory infection and wound infection in 5(20%) and 6(24%) patients respectively.Post

op Chemotheraphy was given in all the post op patients with 5FU based regimen and a follow up of 3 months was done in all the patients and found no reccurrences in any of our patients.

V. Tables

Comparison Of Sex With Other Studies.

	Present study		Verdecchia et al march 2011[48]		Sumathi et al 2009[47]		Pesic et al 2004[49]	
SEX	NO	%	NO	%	NO	%	NO	%
MALE	20	80%	293	62%	64	71.9%	73	69.52%
FEMALE	5	20%	182	38%	25	26.9%	32	30.48%

Comparison Of Studies Related To Age.

	Present study	Saifuddin et al 2010[50]	Urmi Sen et al 2002[51]	Pesic et al 2004[49]
AGE	**%**	**%**	**%**	**%**
30-40	16	10.2	0.5	
41-50	28	12.2	7.2	65.71
51-60	32	18.3	28	
61-70	16	40.8	19.2	34.29
>70	8	20.4	43.4	

Comparison Of Risk Factors.

	Present study	Sumathi et al 2009[47]	Saifuddin et al 2010[50]
RISK FACTORS	**%**	**%**	**%**
Smoking	40	40.5	71.4
alcohol	40	35.9	61.22
Tobacco chewing	20	10.2	-
spicy food	64	-	-
Previous surgery(>10yrs)	4	-	-
family h/o	-	-	-
H.pylori	-	-	-

Comparison Of Clinical Features.

	Present study	Safee et al 2009[57]	Saifuddin et al 2010[50]
CLINICAL PRESENTATION	**%**	**%**	**%**
PAIN	88	56.6	28.5
VOMITING	80	43.2	12.2
NAUSEA	44		8.1
MALENA	8	19.1	-
L/W	76	57.7	71.4
L/A	48	31.5	-
PALLOR	80	-	12.2
ICTERUS	0	-	10.2
VGP	40	-	-
MASS ABD	32	-	6.1

Comparison Of Site Of Growth Of Our Study With Other Studies.
Pathological Grading

	Present study		Cherian et al 2007[54]		Pesic M et al 2004[49]		Verdecchia et al 2011[48]
SITE OF GROWTH	**NO.PTS**	**%**	**NO. PTS**	**%**	**NO.PTS**	**%**	**%**
FUNDUS	1	4	65	3.78%	28	26.67%	7%
BODY	2	8	400	23.27%	-		6%
PYLORUS ANTRUM	18	72	1157	67.31%	77	73.34%	21%
LESSER CURVATURE	3	12					29%
GASTROJEJUNOSTOMY STROMA(>10YRS)	1	4					-

Pathological Grading

	Present study		Safee et al 2009[57]		Afuwape et al 2012[53]		Pesic M et al 2004[49]	
GROWTH	**%**	**NO.PTS**	**%**	**NO. PTS**	**%**	**No. PTS**	**%**	**No. pts**

WELL DIFF	24%	6	23%	113	73.5%	36	30.47%	32
MOD DIFF	24%	6	30%	142	10.4%	5	34.29%	36
POORLY DIFF	52%	13	43%	203	10%	5	35.23%	37
UNDIFFERENTIATED	-	-	3%	14	6.1%	3	-	-

Comparison On Complications.

COMPLICATIONS	**Present study NO.PTS**	**Kolev N et al 2009[56]**	**Saifuddin et al 2010[50]**
RESPIRATORY	5	106	14
WOUND INFECTION	6	90	12
ANASTOMOTIC LEAK	1	14	8
ASPIRATION	1	-	-
LYMPHORIA	1	-	-
MORTALITY	0	12	-
NONE	11	-	-

VI. Conclusion

The incidence of gastric carcinoma increases after the 5th decade of life and is predominantly found in male sex. Consumption of spicy food ,alcohol and smoking are the important risk factors for development of carcinoma of stomach. Pain in the upper abdomen manifesting as retrosternal pain and dyspeptic symptoms like nausea and vomiting were the most common modes of clinical presentation. Antrum and pylorus are the most common sites of carcinoma of stomach. Majority of the malignancies are poorly differentiated adenocarcinomas in histologically. Respiratory and wound infections were the most common complications after surgery.

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