CHANGING TRENDS IN CARCINOMA STOMACH - A CLINICO-PATHOLOGICAL CORRELATION

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ABSTRACT

BACKGROUND

The aim of this study is to study the incidence, age and sex distribution, commonest clinical presentation, stage at the time of presentation, procedure performed and the outcome of carcinoma of stomach in the patients attending surgical wards in the Government General Hospital, Rangaraya Medical College, Kakinada from August 2011 to September 2013.

Carcinoma of stomach has been described as "captain of men of death." It is the fourth most common cancer and the second leading cause of cancer related deaths. Carcinoma of stomach is the most common gastrointestinal malignancy. Its incidence has been increasing in the developing countries.

MATERIALS AND METHODS

A prospective study was conducted over 74 patients admitted to surgical wards with carcinoma stomach during August 2011 to September 2013.

RESULTS

Carcinoma stomach was more common in males between 50 – 70 years, most common presentation is pain abdomen followed by vomiting. It is common in patients with A +ve blood group. Most common site is antrum. Most of the patients presented with stage IV disease.

CONCLUSION

The most important factor in the prognosis of the patient with carcinoma stomach is the stage at the diagnosis and as most of the patients presented late (in advanced stage) they had poor prognosis. So screening by endoscopy in all the patients with symptoms and signs suggestive of carcinoma stomach for early detection should be carried out.

KEYWORDS

Changing Trends in Carcinoma Stomach, Epidemiological Study of CA Stomach.

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BACKGROUND

Carcinoma of stomach has been described as "captain of men of death." Carcinoma stomach is the 14th most common cancer and cancer related death in United States,¹ worldwide it is the fourth most common cancer and the second leading cause of cancer related death indicating its major prevalence in developing countries. Carcinoma of stomach is the most common gastrointestinal malignancy. Time Trends: In most countries gastric cancer has been declining since past 40 years. There is a greater decline among females compared to males.² The overall mortality of gastric cancer is 3.7 deaths/100000 people, a decline of 35% since 1992.^{3,4}

MATERIALS AND METHODS

A prospective study was conducted in GGH, Kakinada. The study period is from August 2011 to September 2013. The study sample consisted of 74 patients. Inclusion Criteria - All the patients admitted and who were diagnosed to have carcinoma stomach by HPE irrespective of comorbidities.

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RESULTS

The total number of admissions is 11,546 % of Ca stomach admissions is 0.64%.

Total number of gastrointestinal malignancy surgeries in the same time period are 162, of which surgeries for Ca stomach are 36. Percentage 22.2%.

Of the 74 cases studied, 56 (76%) were males and 18 (24%) were females. Male:female ratio is 3:1.

Maximum incidence is observed in the age group of 51 - 60 yrs. Youngest person admitted was 18 years old and the oldest patient admitted was 87 years old.

The most common presenting symptom was pain abdomen in 57 cases (77%) followed by vomiting and loss of appetite.

Incidence of Symptoms

Sl. No.	Symptoms	No. of Cases	%
1	Pain abdomen	57	77%
2	Vomiting	55	74%
3	Loss of appetite	40	54%
4	Loss of weight	40	54%
5	Melena	23	31%
6	Dysphagia	12	16%

Most common physical signs are palpable lump in 46 cases (62%), anaemia in 57 cases (77%) and hepatomegaly in 14 cases (18%).

Incidence of Signs

Sl. No.	Physical Sign	No. of Cases	Percentage
1	Palpable lump	46	62%
2	Anaemia	57	77%
3	Hepatomegaly	14	18%
4	Ascites	18	24%
5	VGP	6	8%
6	Virchow's Nodes	11	15%
7	Distant Mets (Krukenberg)	1	1%

There is predominance in blood Group A.

Blood Group	No. of Cases	Percentage
A	25	34%
B	20	30%
O	17	27%
AB	7	9%

Commonest site of growth is antrum, next common is body of stomach. Postop GJ stomal ulcer was observed in 5 cases. Malignant gastric ulcer perforation was encountered in 3 cases. Biopsy proved as adenocarcinoma later underwent subtotal gastrectomy. Many studies have shown increased incidence of gastric cancer in proximal stomach and decline in antral region^{5,6} conflicting with the present study, which showed increased incidence of nonfundal lesions.

Sl. No.	Site of Growth	No. of Cases	%
1	Fundus	2	3%
2	Fundus and Body	3	4%
3	Antrum and Body	16	22%
4	Antrum	34	46%
5	Body	17	23%
6	Entire Stomach	2	3%

Findings at Laparotomy

More than 50% of the cases have lymph node involvement by the time of presentation. Pancreas is the common organ to be involved by direct infiltration.

Sl. No.	Findings	No. of Cases	Percentage
1	Invasion of Serosa	48	65%
2	Lymph Node Involvement		
	Perigastric,	45	60%
	Celiac and Splenic	22	30%
	Para-aortic	9	12%
3	Liver Secondaries	8	11%
4	Ascites	12	16%
5	Direct Infiltration		
	Liver	3	4%
	Pancreas	10	14%
	Transverse Colon	4	5%
6	Peritoneal Secondaries	10	14%

Staging

Most of the patients presented in Stage 4. In India, more than 98% of cases are diagnosed in advanced stage and in those subjected to surgery more than 70% have serosal infiltration.³

Sl. No.	Stage	No. of Cases	Percentage
1	I	0	0%
2	II	13	18%
3	IIIA	51	20%
4	IIIB	7	9%
5	IV	39	53%

Type of Surgery Adopted

In 49% of cases we performed subtotal gastrectomy with gastrojejunostomy and jejunojejunostomy.

Sl. No.	Surgery	No. of Cases	%
1	Radical Gastrectomy	5	7%
2	Subtotal Gastrectomy	31	41%
3	Anterior Gastrojejunostomy	5	7%
4	Feeding Jejunostomy	14	19%
5	No Laparotomy	19	26%

Histology

Poorly differentiated carcinoma is commonly encountered.

Sl. No.	Nature of Adenocarcinoma	No. of Cases	Percentage
1	Well differentiated	11	15%
2	Moderately differentiated	28	37%
3	Poorly differentiated	36	48%

Of the 74 cases 36 patients underwent gastrectomy, 28 patients (38%) have survived for average period of one and a half to two years; 17 patients (23%) were alive, under followup. Remaining patients with advanced carcinoma have survived for an average period of 9 months.

DISCUSSION

In the present study, the incidence of carcinoma stomach is more in males (3:1) comparable with other studies, also showing increased incidence of carcinoma stomach in males.

Sex Incidence

Study	Males	Females
M. A. Kabir, R. Barua Study	64%	36%
Present Study	76%	24%

Age Incidence

Maximum incidence is observed in the age group of 51 - 60 years, which correlated with the study conducted at Tata Memorial Hospital, Mumbai.

M. A. Kabir, R. Barua and H. Musad - 2011⁷ study showed that average age of diagnosis of carcinoma of stomach is 51 plus or minus 14 years.

Incidence of Symptoms and Signs

Common symptoms are vomiting and pain abdomen.

Common signs are anaemia and palpable lump.

Sl. No.	Symptoms	No. of Cases	% (Present Study)	M. A. Kabir, R. Barua Study
1	Pain Abdomen	57	77%	100%
2	Vomiting	55	74%	78%
3	Loss of Appetite	40	54%	36%
4	Loss of Weight	40	54%	62%
5	Melena	23	31%	23%
6	Dysphagia	12	16%	24%

There is predominance in blood group A. Peter J. D. Adamo, ND 2000 - 2009 study declared that blood group A is associated with increased risk of gastric cancer.

Incidence in Various Blood Groups

Blood Group	No. of Cases	Percentage (Present Study)	H. Masud, R. Burua Study
A	25	34%	34%
B	20	30%	22%
O	17	27%	28%
AB	7	9%	16%

Anatomical Site

Most of the tumours are from antral region and is comparable to the study of Waisberg J, Andre EA, Franco MI study 2006.

Anatomical Distribution of Lesion

Site of Growth	M. A. Kabir, R. Barua Study	Present Study
Fundus	4%	3%
Fundus and Body	4%	4%
Antrum and Body	24%	22%
Antrum	50%	46%
Body	18%	23%
Entire Stomach	0%	3%

In 49% of cases, we performed subtotal gastrectomy with gastrojejunostomy and jejunojunostomy. It is same as the study conducted by M Sika S, Tazima, Benhamiche AM Br J. Surg 1997. They stated as proportion of curative resections in 50%.

36 patients underwent curative resection, out of which 6 patients died postoperatively. Operative mortality is 16.6%. M

Sika S, Tazima, Benhamiche AM Br J. Surg 1997 study gave operative mortality as 13.6%.

Post-operative biopsies were studied and poorly differentiated adenocarcinoma is commonly encountered.

Differentiation of Malignancy

Nature of Adenocarcinoma	IGOR Rabin, Andronik Kapiev and Barachikman Study	Present Study
Well Differentiated	8.3%	15%
Moderately Differentiated	50%	37%
Poorly Differentiated	41.7%	48%

All the patients in this study were advised chemotherapy with Inj. 5FU and Inj. Leucovorin. Inj. 5FU 500 mg IV in 5% dextrose from day 1 to 5 were given once in 28 days; before starting each cycle of chemotherapy Hb%, TLC and Platelet count were estimated. If low counts were detected, the cycle was skipped and arrangements were made for blood transfusion. Minimum of 6 cycles of chemotherapy were given.

Of the 74 cases, 36 (49%) underwent gastrectomy; 28 (38%) survived for an average period of one and a half to two years; 17 (23%) patients were alive in followup. Remaining patients with advanced disease (51%) had survived an average period of 9 months. Shiraishi N, Satok, Yasoda K, J. Surg Oncol 2007 study stated median survival period of who underwent gastrectomy in 15 months.

CONCLUSION

A total of 74 cases were diagnosed in a 2-year period.

There is male predominance. Male: Female ratio, 3:1.

More than 80% of cases were in the age group of 41 - 70 yrs.

Blood Group A constitute most of the cases.

Duration of symptoms varied between 1 month and 9 months.

Pain abdomen and vomiting are presenting symptoms in most of the cases.

Early gastric carcinomas were not detected in our series. Most of the cases were advanced carcinomas.

Pyloric antrum was involved in 2/3rd of the cases.

Curative resection was done in 1/2 of the cases and others underwent palliative procedures.

Patients with curative resection survived for an average period of 18 months; those without any procedure survived for a period of 6 months.

Proposals

Half of the cases were admitted in late stages, so curative resection was possible only in half of the cases.

Serious attempts should be made to detect gastric cancer in early stages when it is potentially curable.

For this gastroscopy, facilities should be improved and trained personnel in gastroscopic diagnosis and cytological examination should be available in all community area hospitals and district hospitals.

To improve the prognosis, all dyspeptic patients above 40 years should be viewed with suspicion and subjected to thorough investigation and followup.

REFERENCES

1. Jemla A, Siegel R, Ward E, et al. Cancer statistics, 2009. *CA Cancer J Clin* 2009;59(4):225-49.
2. Jassawalla DJ, Yeole BB, Netekar MV. Cancer incidence in Indian Christians. *Br J cancer* 1985;51(6):883-91.
3. National cancer institute, surveillance research programme: fast stats 2009. <http://seer.cancer.gov/faststats>.
4. Mohandas KM, Nagral A. Epidemiology of digestive tract cancer in India. *Indian journal of gastroenterology* 1998;17:100-3.
5. Blot WJ, Devesa SS, Kneller RW, et al. Rising incidence of adenocarcinoma of the esophagus and gastric cardia. *The Journal of the American Medical Association* 1991;265(10):1287-9.
6. Kelley JR, Duggan JM. Gastric cancer epidemiology and risk factors. *Journal of Clinical Epidemiology* 2003;56(1):1-9.
7. Kabir MA, Barua R, Masud H, et al. Clinical presentation, histological findings and prevalence of helicobacter pylori in patients of gastric carcinoma. *Faridpur Med Coll J* 2011;6(2):78-81.