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Original Article

EVALUATION OF PRE-OPERATIVE CLINICAL FINDING AND PER-OPERATIVE ASSESSMENT OF CARCINOMA STOMACH IN TERTIARY SETTINGS OF BANGLADESH

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Abstract

Background: Carcinoma stomach, a major killer cancer all over the world, is still presenting late in developing countries due to delay in early diagnosis, lack of awareness, infrastructure etc.

Objectives: To establish the importance of preoperative evaluation on operability of carcinoma stomach.

Methods: Sixty clinically and histopathologically diagnosed ca stomach cases who underwent surgery in department of Bangabandhu Sheikh Mujib Medical University, Dhaka, and Dhaka Medical College Hospital, Dhaka in 2011 were assessed with clinical picture, investigations, preoperative evaluation and peroperative findings were recorded. Z test for proportion was used to assess clinical decision predictability with a p value of ≤0.05 as significant.

Results: Male (73.33%) predominant with 2.75:1 male:female ratio was observed. Mobility, fixity and abdominal lymphadenopathy were not well detected through clinical assessment (p=0.001) while ascites, metastasis and Shelf of Blummer were similar in both clinical and operative finding. The endoscopy of upper GIT finding gave a unique picture as the findings were almost same as were found during operation. USG detected a lesser proportion of the clinical condition compared to peroperative condition whereas CT performed better than the USG except for the lesion detection. Though Computed Tomography (CT) detected higher percentage of lesion, metastasis, ascites and lymph node involvement compared to ultrasonogram (USG), it was significantly higher only for lesion detection (p=0.002) and lymph node involvement (p=<0.001). In the similar manner USG assessment of lesion detection (p=<0.001) and lymph node involvement (p=0.003) was significantly low compared to operative finding. When we looked between CT and operative finding only lesion detection was significantly low (p=0.01) indicating CT to be most effective predictor of clinical picture for operative decision. Preoperative plan were mostly not in accordance with peroperative decision except for total gastrectomy.

Conclusion: The study indicates weakness in clinical detection and pre-operative plan compared to per-operative finding. Hence combination of clinical feature and investigation tools especially endoscopy of upper GIT combined with CT is recommended to predict a better operative decision.

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Introduction

Carcinoma stomach is the fourth most common cancer diagnosed and the second most frequent cause of cancer related death worldwide[1,2]. It frequently presents with advanced disease[3]. Treatment for stomach cancer depends on the size, location, and extent of the tumour; the stage of the disease; and patient's health. Surgical resection is the only hope of better outcome[4].

In our country most of the cases present in advanced stage where management is difficult. On many occasions pre-operative surgical plan have to be changed during laparotomy. That is why it is important to correlate the preoperative clinical presentation and operative plans with per-operative findings. This study was carried out to record the preoperative finding and assess the finding with peroperative decision to evaluate the predictability of the preoperative decision.

Materials and Methods

This prospective study was carried out in surgery department of Bangabandhu Sheikh Mujib Medical University, Dhaka and Dhaka medical college hospital,

Dhaka in 2011 upon 60 diagnosed cases of ca stomach who underwent surgery for either curative resection or some sort of palliative resection or bypass. The research protocol was approved by the local ethical Committee. The clinical feature, endoscopy of upper GIT, USG and CT scan findings of the patients were recorded upon which clinical decision was made whether patients would go for partial or total gastrectomy, palliative gastrojejunostomy or they are inoperable. All these findings were evaluated from the peroperative finding to assess the diagnostic accuracy from clinical and investigative finding and also predictability of operative decision. Z test was done to assess the proportional difference of the different findings. A p value of ≤ 0.05 was considered to be significant.

Results

The patients were mostly middle aged with more than three quarter being in their 4th and 5th decades. Males were accounting nearly 3/4th of the sample with a male: female ration of 2.75:1. Most of them came from middle class or low economic condition (Table 1).

Table 1: Socio demographic features of study subjects

Variables	N (%)
Age group (years)	
≤ 40	2 (3.3)
41-50	22 (36.7)
51-60	24 (40.0)
61-70	9 (15.0)
>70	3 (5.0)
Male	44 (73.3)
Male: Female	2.75:1
Economy	
Poor	25 (41.7)
Middle class	28 (46.7)
Rich	7 (11.6)

Table 2: Comparing clinical assessment with per operative findings

Traits	Clinical(%)	Per operative (%)	p
Mobility of the lump	13 (21.67)	41 (68.33)	0.001
Fixity of the lump	12 (20)	19 (31.67)	0.001
Ascites	05 (8.33)	09 (15)	0.23
Peritoneal seedling	00	13 (21.67)	-
Abdominal lymphadenopathy	01 (1.67)	27 (45)	0.001
Liver metastasis	05 (8.33)	06 (10)	0.70
Shelf of Blummer	02 (3.33)	03 (5)	0.58

Clinically 21.67% mobility of lump was detected which is significantly low (p<0.001) from 68.33% peroperative mobility detection. Similarly fixity of lump (20%) was detected significantly less (p=0.001) than was done preoperatively (31.67%). Abdominal lymphadenopathy (1.67%) was very low (p<0.001) compared to 45% peroperative detection. Ascites, liver metastasis and Shelf of Blummer detection was almost similar to the peroperative feature.

Table 3: Assessing Endoscopy of upper GIT findings with operative finding

Site	Endoscopy Findings	Operative Findings
Cardia	05(08.33%)	05(08.33%)
Body	06(10%)	07(11.67%)
More than one site	03(05%)	04(06.67%)
Antrum	46(76.67%)	44(73.33%)

Table 4: Comparing USG, CT with operative findings*

Comparison	Detect lesion	Liver metastasis	Ascites	LN involvement
USG	29 (48.33%)	05 (08.33%)	08 (13.33%)	06 (10%)
CT	19 (86.36%)	05 (22.72%)	05 (22.72%)	10 (45.45%)
P	0.002	0.08	0.27	<0.001
USG	29 (48.33%)	05 (08.33%)	08 (13.33%)	06 (10%)
Operative	60 (100%)	06 (10%)	09 (15%)	19 (31.67%)
P	<0.001	0.70	0.76	0.003
CT	19 (86.36%)	05 (22.72%)	05 (22.72%)	10 (45.45%)
Operavie	60 (100%)	06 (10%)	09 (15%)	19 (31.67%)
P	0.01	0.13	0.39	0.28

*USG n=60, CT n=22, Operative finding n=60

While comparing USG and CT, Table 4 shows that USG is detecting a lesser proportion of the clinical condition compared to peroperative condition whereas CT is performing better than the USG except for the lesion detection. Though CT detected higher percentage of lesion, metastasis, ascites and lymph node involvement compared to USG, it was significantly higher only for lesion detection (p=0.002) and lymph node involvement (p=<0.001). In the similar manner USG assessment of lesion detection (p=<0.001) and lymph node involvement (p=0.003) was significantly low compared to operative finding. When we looked between CT and operative finding only lesion detection was significantly low (p=0.01).

Table 5: Preoperative surgical plan and per-operative procedure done (n=60)

Procedure	Pre - op erative plan (%)	Per - operative finding (%)	p
Partial gastrectomy	38 (63.3)	25 (41.7)	0.01
Total gastrectomy	10 (16.7)	07 (11.7)	0.43
Palliative (Gastrojejunostomy)	12 (20.0)	23 (38.3)	0.02
Inoperable	00	05 (8.3)	

Table 5 shows that 5 (8.33%) cases were inoperable which couldn't be decided during preoperative plan. On the other hand, 38 (63.3%) patients were planned for partial gastrectomy but only 25 (41.7%) were actually fit for that (p=0.01). Only 12 (20.0%) were decided for gastrojejunostomy but the decision changed to nearly double (38.3%) during operation. Only there was a similarity of decision for total gastrectomy.

Discussion

It is very difficult to diagnose early gastric carcinoma, not only because of the diversity of the presentation but also because of the time lag between the commencement of the growth and the appearance of symptoms.

The age of occurrence of ca stomach correlates with the finding[5,6] others though in some studies suggested a shift to seventh decade[7]. Male predominance of 2.75:1 male: female ratio is also corroborating with other finding[8].

The study revealed weak case detection in terms of mobility, fixity, lymphadenopathy and peritoneal seedling. But this is also very hard to have a good predictable clinical diagnosis as revealed by studies[4,9,10].

Endoscopy of upper GIT was rather more near to the picture in operative setting implicating its importance with a high added value to the clinical assessment. Numerous reports have demonstrated that accuracy of diagnosis of gastric carcinoma by endoscopy of upper GIT is greater than 95%[11,12]. It is a valuable aid in the diagnosis of early cases of gastric cancer detecting tumour invasion limited to the mucosa or submucosa with or without lymph node involvement[13].

CT scan has proved to be more sensitive compared to USG in detection of gastric lesion as well as LN involvement. With a good percentage of sensitivity (85%), CT can be advocated instead of USG in detecting liver metastasis[14].

In case of partial gastrectomy and palliative bypass surgery preoperative decision is significantly less than peroperative findings, whereas the decision for total gastrectomy was found to be in line with peroperative finding. Similar observations are made by researchers[15,16]. Partial gastrectomy was more common (72.9%) in studies than total gastrectomy (27.1%)[7] which is somewhat similar to the clinical decision and peroperative finding in this study.

Pre-operative clinical presentation and relevant investigation cannot always predict the tumor extent. On many occasions preoperative surgical plan changed during laparotomy. Although the primary diagnosis rests upon clinical findings and endoscopy of upper GIT, the question of operability can only be finally decided by the surgeon's hand within the abdomen.

Conclusion

This study reveals the weakness and acknowledges the difficulty of diagnosing gastric cancer in our country. But the superiority of endoscopy of upper GIT and CT scan can be helpful for further refreshing of preoperative plan which would enable the decision more practicable with the peroperative setting.

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