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Research Article

Tumor Markers in Gastrointestinal Tumors

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Abstract

Introduction: Gastrointestinal Carcinomas are one of the most common malignancy which is increasing globally. It is the third most common cancer. Worldwide an estimated 19.3 million new cancer cases and almost 10 million cancer deaths occurred in 2020 (GLOBOCAN 2020) worldwide. The global cancer burden is expected to be a 47% rise from 2020 to 28.4 million cases in 2040 (GLOBOCAN 2020). Gastric cancers are associated with high morbidity and high mortality.

Material and Method: This study included total 979 patients who attended our OPD in the department of Radiation Oncology in State Cancer Institute from April 2021 to March 2022.

Results:

- 53.83% cases of carcinoma gall bladder were largest number of cases.
- carcinoma pancreas cases were 8.3%.
- carcinoma stomach cases were 11.23%.
- Hepatocellular carcinoma cases was 26.55%.

The study shows the most common age group was 51-60 years. Carcinoma gall bladder was the most common.

Keywords: Gastrointestinal Carcinoma; Carcinoma Pancreas; Carcinoma Stomach; Hepatocellular Carcinoma

Introduction

Gastrointestinal carcinomas are one of the most common malignancy which is increasing globally [1]. It is the third most common cancer. Worldwide an estimated 19.3 million new cancer cases and almost 10 million cancer deaths occurred in 2020 (GLOBOCAN 2020) worldwide [2]. The global cancer burden is expected to be a 47% rise from 2020 to 28.4 million cases in 2040 (GLOBOCAN 2020). Gastric cancers are associated with high morbidity and high mortality. Developing countries accounts for 2/3rd of cases of gastric cancer. Survival forGIT malignancies is improving worldwide due to multimodality diagnostic and treatment techniques [3]. A tumor marker is a compound which is produced by tumor cells and host cells in response to malignancy. Tumor markers usually used clinically for diagnosis and to assess the response of treatment.

- **CA 19.9**: is a carbohydrate antigen occurring in a tumour as a glycolipid and in serum as a mucin secreting glycoprotein. It is pigmentisized by natural pancreatic cells, gastric endometrial and epithelial cells. It can be elevated in pancreatic colorectal often other GIT Tumor [5].

- **CEA:** CEA is a high molecular weight glycoprotein usually present in fetal gut and colonic adeno carcinoma. This tumor marker may be elevated in colon, rectum, Intestinal and breast disease and other benign condition also [6].
- **AFP**: Alpha feto protein (AFP) is the earliest discovered protein marker. AFP comes fromendodermal organization of cells of embryo. In 1964 Zotamirov., *et al.* also found elevated level of AFP in hepatic carcinoma patients [7]. AFP plasma concentration of 20mg/ml is generally considered pathological threshold with a reference rangeof 200-300mg/ml in human being.

Serum concentration>400mg/ml generally believed to be elevated in metastatic carcinoma. In these patients serum AFP level has a positive correlation with hepatitis B versus large tumor size. It can be elevated in some other disease like liver cirrhosis acute or chronic hepatitis, some gynecological tumors and normal pregnancy [8].

Lactate dehydrogenase LDH

This enzyme universally distributed in various parts of the body. It is a cytoplasmicenzyme reversibly catalyses the conversion of pyruvate to lactose through glycolysis. Tumour cell produces a substantial amount of energy, cancer cells utilizing this energy to sustain higher proliferation rate. Due to rapid cell division high metabolic demand, avascular area formed in center of tumour in solid tumor cells, this converts glucose store into lactose [9]. Serum lactose dehydrogenase estimation is used to evaluate the diagnostic and prognostic implication in GIT Carcinoma cases [10].

CA 125

This tumor marker is used by Bast., *et al.* [11]. in early 1980's. It is mucin typeglycoprotein associated with cellular membrane produced by MUC 16 gene.

Material and Method

This study included total 979 patients who attended our OPD in the department of Radiation Oncology in State Cancer Institute from April 2021 to March 2022.In 979,527 cases were of gall bladder carcinoma ,260 cases of Hepatocellular carcinoma ,110 cases of carcinoma stomach,82 cases where of carcinoma pancreas.All cases were histologically proved either by ANAC or biopsy 20-to-80-year age group were included. Patients characteristics were shown in table 2. Tumor markers CEA, CA-19.9, AFP, LDH and CA125 were measured by Reagent Kit. Thecut-off values were set as follows.

Results

- 53.83% cases of ca gall bladder
- ca pancreas 8.3%
- ca stomach 11.23%
- Hepatocellular ca 26.55%

The study shows the most common age group was 51-60 years. Carcinoma gall bladder was the most common, second most common was Hepatocellular carcinoma. Serum CA19.9 concentration was the most common tumor marker investigated in all GIT cancers. Highest CA19.9 (>1000) value shown in ca gall bladder patients [93%] most common tumor marker in hepatocellular carcinoma was AFP (89%).

CA gall bladder

Total 572 cases were registered CA 19.9 was raised in 93% of cases mean value of 873.5 ± 27.5 range of CA 19.9 was quite high in females. CEA was found elevated in 78% of cases range of 38 ± 2.75.

AFP & CA 125 also raised in 2% and 11% of cases and range was 259 ± 7.7 and 150 ± 7.9.

According to markers higher range of CA 19.9 shown elevated in Ca gall bladder. In 85 cases it was shown more than 2000. CEA was raised in Ca gall bladder Ca and 3 cases it shown > 12000 in Stomach Ca, Pancreas, CA 125 was foundelevated in ca gall bladder, Ca liver, Ca stomach and in females with carcinoma pancreas.

AFP was shown with higher range in carcinoma liver, ca gall bladder LDH was raised in ca liver, stomach Ca liver in 3 cases it was 17500 mg/ml.

Ca Liver

Total 260 cases were registered CA 19.9 shown elevated in 21% cases with mean value of 51.35 ± 11.95 CEA was raised in 8.8% cases with mean value of 8 ± 3.8 AFP was found in 88.8% cases with mean value of 1217.5 ± 12.

Ca Stomach

CA19.9 was markedly elevated. There is mild increase in CEA only 68% patientsshown elevated CA19.9.

Ca Pancreas

Total 82 patient were registered - CA 19.9 shown elevated in 70% cases with meanvalue of 50 ± 12 CEA were raised in 23% cases with elevated value 8 ± 15.35.

Hepatocellular carcinoma

CA 19.9 level in hepatocellular carcinoma in 21% patients. Serum alpha proteinlevel was increased in 89% of patients. CEA was increased in only 9% of patients.

Pancreatic carcinoma

58 patients of pancreatic carcinoma had elevated CA19.9. 20 Patient shown value of (100 ml. 38 patients had value of)100 IU/ml. Alpha fetoprotein level was normal in all patient with pancreatic carcinoma CEA level was increased in 48% ofpatients with pancreatic cancer.

Biliary tract disease

CA Serum 19.9 concentration were found elevated in 93% of patients with gall bladder cancer. CEA level was increased in 78% of patients of gall bladder cancer. Some of the patient shown elevated AFP (2%) and CA 125 level (11%) in gall bladder cancer.

Mean value of CA 19.9 in ca stomach 53 ± 13 and found elevated in 60.8% of patients CEA was raised 40.3% cases with mean value of 10.5 ± 3.5 CA 125 was found in 20% cases with mean value of 136 ± 14 LDH was found in 3% cases. AFP was found in 10% cases with mean value of 273.5 ± 13.

3 u/ml	CEA
20 u/ml	CA 19.9
15 u/L	AFP
240 mg/dl	LDH
35 mg/dl	CAR

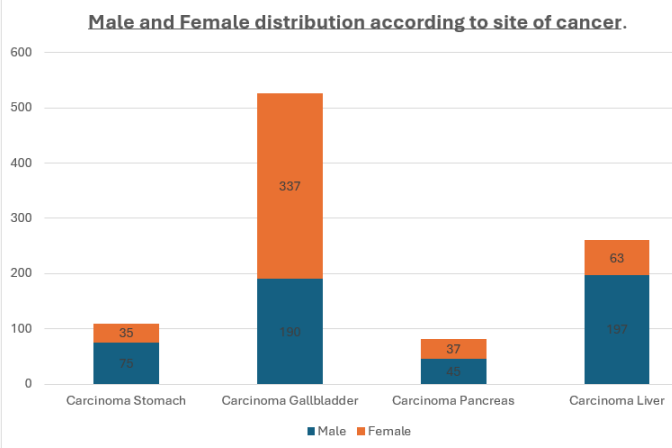
Table 1: Value of tumor markers.

	Ca Stomach (10)	Carcinoma Pancreas (82)	Liver (260)	Gall Bladder
CA19.9	>37U/ml 68% 75%	71% (70.7) (58)	21% (55)	93% (490)
CEA	43.6% (48)	48% (40)	9% (23)	78% (411)
AFP	10.9% (12)	0	89% (231)	2% (11)
LDH 200-300	3.6% (4)	0	1.1% (-3)	No
CA 125	21% (23)	0	2.3%	11% (59)

Table 2: Concentration of tumor markers with different sites.

Disease	Male	Female	Total
Carcinoma Stomach	75 (68%)	35 (32%)	110 (11.2%)
Carcinoma Gallbladder	190 (36%)	337 (63%)	527 (53.8%)
Carcinoma Pancreas	45 (54.8%)	37 (45.1%)	82 (8.3%)
Carcinoma Liver	197 (57.9%)	63 (24.2%)	260 (26%)
Disease	Male	Female	Total
Carcinoma Stomach	75 (68%)	35 (32%)	110 (11.2%)
Carcinoma Gallbladder	190 (36%)	337 (63%)	527 (53.8%)
Carcinoma Pancreas	45 (54.8%)	37 (45.1%)	82 (8.3%)
Carcinoma Liver	197 (57.9%)	63 (24.2%)	260 (26%)

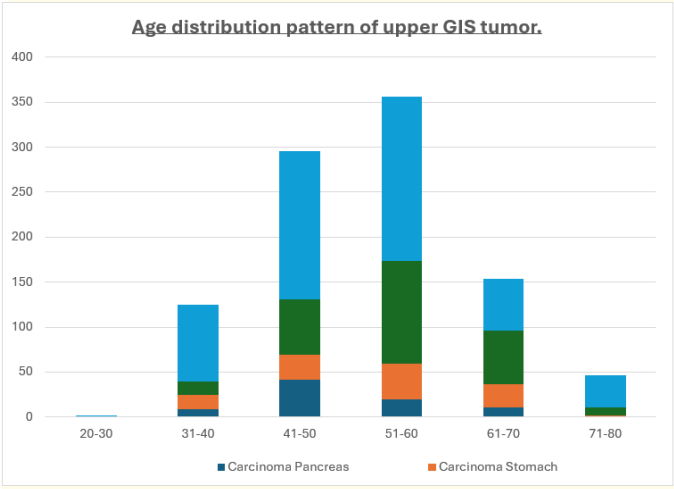
Table 3: Male: Female Ratio distribution according to the site of cancer.



Graph 1: Male: Female Ratio according to site of cancer.

Age	Carcinoma Pancreas	Carcinoma Stomach	Hepatocellular Carcinoma	Carcinoma Gall bladder
20-30	0	0	0	2 (0.3%)
31-40	9 (10.9%)	16 (14.5%)	15 (5.7%)	85 (16.1%)
41-50	42 (51.2%)	27 (24.5%)	62 (23.8%)	165 (31.3%)
51-60	20 (24.3%)	39 (35.4%)	115 (44.2%)	182 (34.5%)
61-70	11 (13.4%)	26 (23.6%)	59 (22.6%)	58 (11%)
71-80	0	2 (1.8%)	9 (3.4%)	35 (6.6%)
Total Cases (979)	82 (8.3%)	110 (11.2%)	260 (26.5%)	527 (53.8%)

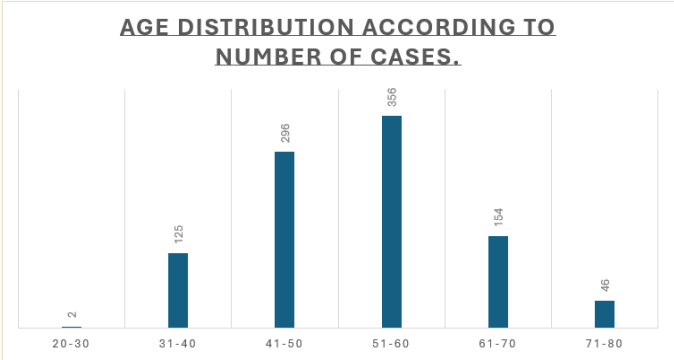
Table 4: Age distribution pattern of upper GIS tumors.



Graph 2: Age distribution pattern of upper GIS tumors.

Age Group	No of cases	Percentage
20-30	2 (0.02)	(0.02%)
31-40	125 (12.7%)	(12.7%)
41-50	296 (30.2%)	(30.2%)
51-60	356 (36.3%)	(36.3%)
61-70	154 (15.7%)	(15.7%)
71-80	46 (4.6%)	(4.6%)

Table 5: Age distribution of Upper GIS tumor.



Graph 3: Age wise disease distribution.

Level of different tumor markers according to site of disease.

CEA	Ca Pancreas	Stomach	Ca Liver	Carcinoma gall Bladder
Male	8.62 ± 5.15	10.12 ± 3.72	7.80 ± 3.3	34 ± 3.62
Female	8.02 ± 5.75	10.15 ± 3.68	8.2 ± 4.32	42 ± 1.56

Table a

CA 19.9	Ca Pancreas	Stomach	Ca Liver	Carcinoma gall Bladder
Male	48.68 ± 12.86	56.95 ± 14.45	50.80 ± 12.15	565 ± 20
Female	51.72 ± 11.15	50.70 ± 13.15	52.57 ± 11.75	1182 ± 35.15

Table b

Carcinoma Stomach	CA 19.9	CEA	AFP	LDH	CA125
Male	44/75 (40%)	27 (24.54%)	8 (7.2%)	3 (2.7%)	9 (8.1%)
Female	31/35 (28.18%)	21 (19%)	4 (3.6%)	1 (0.9%)	14 (12.7%)
Total	75	48	12	4	23

Table c

CA 125	Ca Pancreas	Stomach	Ca Liver	Ca gall bladder
Male	70 ± 30	115 ± 15.3	88 ± 3.4	145 ± 7.0
Female	105 ± 15	157 ± 13.1	99.2 ± 3.1	157 ± 8.9

Table d

AFP	Ca Pancreas	Stomach	Ca Liver	Ca gall bladder
Male	8.40 ± 2.87	11.45 ± 3.75	1250 ± 10	243 ± 10.9
Female	6.89 ± 2.50	14.11 ± 4.15	1185 ± 14	275 ± 4.5

Table e

LDH	Ca Pancreas	Stomach	Ca Liver	Ca gall bladder
Male	2.75 ± 17	289 ± 15	292 ± 8.0	343 ± 11
Female	315 ± 18	258 ± 11	281 ± 7.0	302 ± 14

Table f

CA Pancreas	CA 19.9	CEA	AFP	LDH	CA125
Male	32/45 (39%)	11 (13.4%)	2	5	0
Female	26/37 (23%)	08 (9.7%)	1	11	9
Total	58/82	19/52	3	26	9

Table g

Carcinoma Hepatocellular	CA 19.9	CEA	AFP	LDH	CA125
Male	31/197 (11.9%)	12 (4.6%)	189 (72.69%)	2 (0.07%)	0
Female	24/63 (9.2%)	11 (4.2%)	42 (16.15%)	1	6 (2.3%)
Total	55	23	231	3	6

Table h

CA Gall Bladder	CA 19.9	CEA	AFP	LDH	CA125
Male	168/190 (31.8%)	149 (28.2%)	6 (0.01%)	2	20 (3.7%)
Female	322/337 (61.1%)	232 (44%)	5 (0.09%)	36	39 (7.4%)
Total	490 (93%)	411 (78%)	11 (2%)	38	59 (11%)

Table i

Carcinoma Gall Bladder										
Statistic	CA 19.9		CEA		AFP		CA125		LDH	
	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI
Sensitivity	96.94%	95.00% to 98.28%	96.35%	94.05% to 97.94%	88.66%	85.46% to 91.36%	88.41%	85.15% to 91.17%	84.77%	81.27% to 87.85%
Specificity	75.68%	58.80% to 88.23%	83.62%	75.61% to 89.84%	77.70%	69.86% to 84.32%	72.48%	64.57% to 79.47%	72.48%	64.57% to 79.47%
Positive Likelihood Ratio	3.99	2.26 to 7.04	5.88	3.90 to 8.88	3.98	2.91 to 5.43	3.21	2.47 to 4.18	3.08	2.37 to 4.01
Negative Likelihood Ratio	0.04	0.02 to 0.07	0.04	0.03 to 0.07	0.15	0.11 to 0.19	0.16	0.12 to 0.21	0.21	0.17 to 0.26
Disease prevalence (*)	92.98%	90.45% to 95.01%	77.99%	74.20% to 81.46%	77.40%	73.88% to 80.65%	75.77%	72.19% to 79.11%	76.54%	73.04% to 79.78%
Positive Predictive Value (*)	98.14%	96.76% to 98.94%	95.42%	93.25% to 96.92%	93.16%	90.88% to 94.90%	90.95%	88.54% to 92.89%	90.95%	88.54% to 92.90%
Negative Predictive Value (*)	65.12%	52.33% to 76.04%	86.61%	79.63% to 91.45%	66.67%	60.51% to 72.30%	66.67%	60.43% to 72.37%	59.34%	53.65% to 64.79%
Accuracy (*)	95.45%	93.30% to 97.06%	93.55%	91.10% to 95.49%	86.18%	83.20% to 88.81%	84.55%	81.45% to 87.32%	81.89%	78.67% to 84.81%

Table 6: Statistics data of carcinoma gall bladder.

Carcinoma stomach										
Statistic	CA19.9		CEA		AFP		CA125		LDH	
	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI
Sensitivity	80.97%	76.61% to 84.82%	87.07%	82.87% to 90.56%	80.40%	76.44% to 83.95%	86.01%	82.39% to 89.13%	86.68%	83.09% to 89.75%
Specificity	72.48%	64.57% to 79.47%	76.87%	68.80% to 83.71%	93.12%	88.53% to 96.29%	84.65%	78.93% to 89.33%	79.41%	62.10% to 91.30%
Positive Likelihood Ratio	2.94	2.26 to 3.84	3.76	2.76 to 5.14	11.69	6.90 to 19.79	5.6	4.04 to 7.77	4.21	2.17 to 8.16
Negative Likelihood Ratio	0.26	0.21 to 0.33	0.17	0.12 to 0.23	0.21	0.17 to 0.25	0.17	0.13 to 0.21	0.17	0.12 to 0.23
Disease prevalence (*)	71.46%	67.37% to 75.30%	70.29%	65.84% to 74.47%	70.61%	66.92% to 74.10%	68.34%	64.57% to 71.93%	92.64%	89.87% to 94.85%
Positive Predictive Value (*)	88.05%	84.96% to 90.57%	89.90%	86.70% to 92.40%	96.56%	94.31% to 97.94%	92.36%	89.72% to 94.37%	98.15%	96.47% to 99.04%
Negative Predictive Value (*)	60.34%	54.68% to 65.72%	71.53%	65.04% to 77.23%	66.42%	62.05% to 70.52%	73.71%	68.80% to 78.09%	32.14%	26.05% to 38.91%
Accuracy (*)	78.54%	74.77% to 81.99%	84.04%	80.32% to 87.29%	84.14%	81.08% to 86.88%	85.58%	82.61% to 88.21%	86.15%	82.66% to 89.17%

Table 7: Statistics data of carcinoma Stomach.

Carcinoma Liver										
Statistic	CA19.9		CEA		AFP		CA125		LDH	
	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI
Sensitivity	87.44%	84.04% to 90.35%	83.76%	80.12% to 86.96%	85.01%	81.45% to 88.12%	83.40%	79.75% to 86.63%	83.72%	79.91% to 87.06%
Specificity	85.71%	72.76% to 94.06%	87.93%	76.70% to 95.01%	89.06%	78.75% to 95.49%	90.54%	81.48% to 96.11%	91.03%	82.38% to 96.32%
Positive Likelihood Ratio	6.12	3.08 to 12.16	6.94	3.46 to 13.92	7.77	3.86 to 15.65	8.82	4.35 to 17.86	9.33	4.60 to 18.94
Negative Likelihood Ratio	0.15	0.11 to 0.19	0.18	0.15 to 0.23	0.17	0.13 to 0.21	0.18	0.15 to 0.23	0.18	0.14 to 0.22
Disease prevalence (*)	90.26%	87.33% to 92.71%	89.10%	86.13% to 91.62%	87.95%	84.87% to 90.59%	86.55%	83.41% to 89.29%	84.82%	81.43% to 87.82%
Positive Predictive Value (*)	98.27%	96.61% to 99.12%	98.27%	96.58% to 99.13%	98.27%	96.57% to 99.13%	98.27%	96.55% to 99.14%	98.12%	96.25% to 99.06%
Negative Predictive Value (*)	42.42%	36.04% to 49.07%	39.84%	34.58% to 45.35%	44.88%	39.22% to 50.67%	45.89%	40.63% to 51.24%	50.00%	44.42% to 55.58%
Accuracy (*)	87.28%	84.04% to 90.06%	84.21%	80.83% to 87.21%	85.50%	82.21% to 88.38%	84.36%	81.05% to 87.30%	84.82%	81.43% to 87.82%

Table 8: Statistics data of carcinoma Liver.

Carcinoma Pancreas										
Statistic	CA19.9		CEA		AFP		CA125		LDH	
	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI	Value	95% CI
Sensitivity	82.60%	78.79% to 85.97%	82.38%	78.30% to 85.98%	84.71%	80.80% to 88.10%	85.41%	81.87% to 88.49%	86.12%	82.60% to 89.17%
Specificity	92.05%	84.30% to 96.74%	88.78%	80.80% to 94.26%	84.26%	76.00% to 90.55%	85.34%	77.58% to 91.22%	83.78%	75.59% to 90.10%
Positive Likelihood Ratio	10.38	5.10 to 21.16	7.34	4.20 to 12.83	5.38	3.47 to 8.34	5.83	3.75 to 9.06	5.31	3.47 to 8.12
Negative Likelihood Ratio	0.19	0.15 to 0.23	0.2	0.16 to 0.25	0.18	0.14 to 0.23	0.17	0.14 to 0.22	0.17	0.13 to 0.21
Disease prevalence (*)	83.76%	80.38% to 86.77%	80.44%	76.69% to 83.82%	78.70%	74.87% to 82.18%	80.07%	76.59% to 83.24%	80.35%	76.83% to 83.55%
Positive Predictive Value (*)	98.17%	96.34% to 99.09%	96.79%	94.52% to 98.14%	95.21%	92.77% to 96.86%	95.90%	93.78% to 97.32%	95.60%	93.42% to 97.08%
Negative Predictive Value (*)	50.62%	45.40% to 55.84%	55.06%	49.52% to 60.49%	59.87%	53.87% to 65.59%	59.28%	53.58% to 64.75%	59.62%	53.65% to 65.31%
Accuracy (*)	84.13%	80.78% to 87.11%	83.63%	80.10% to 86.77%	84.62%	81.18% to 87.65%	85.40%	82.26% to 88.16%	85.66%	82.50% to 88.45%

Table 9: Statistics data of carcinoma Pancreas.

Discussion

We included Ca Gallbladder, Hepatocellular Cancer, Ca Stomach, Ca Pancreas in our analysis. The study showed the most common age group was 51-60 years. Carcinoma gallbladder was most common cancer, 2nd most cancer was Hepatocellular carcinoma. Serum CA19.9 concentration was most common tumoumarker increased in all GIT cancer, highest CA 19.9 (>2000) value shown in Cancer Gallbladder patients (93%) most common tumour marker in hepatocellular carcinoma in AFP (89%). In gastric carcinoma 68% of patient had elevated CA 19.9.A meta- analysis of 11408 gastric cancer showed elevated CA However CEA and AFP level did not have any diagnostic, progonostic Significance in ca gall bladder treatment reported by vij., *et al.* [12]. More single case study reported high level of CA19.9, CEA, AFP Serum values of AFP and CEA were remarkably high (16500 ng/ML and 1070 ml) [13]. Similar Finding reported in our study, also AFP level >20000 and CA19.9 >17500 in cases of hepatocellular carcinoma and carcinoma gall bladder respectively. Correlation between serum concentration of CA19.9 with advanced stage of gall bladder carcinoma. S. AFP in Hepatocellular carcinoma, S. CEA level not shown any correlation of advancement of disease. Similar results were shown by Sensitivity of tumours markers with gall bladder carcinoma detection has been shown. CA19.9 was found most sensitive tumour mark in carcinoma gall bladder [14]. In Ca Stomach CA19.9, CEA Sensitivity reported 80.97% and 87.8% while specifically shown 72.48% and 76.87% In CA liver sensitivity of AFP was reported 85.01% and specifically shown 89.06%. Other tumor marker also shown sensitivity range of 83% to specifically 90%. In our study Serum CA 19.9% was elevated in 75% cases and CEA in 48% in gastric cancer. Dellvilano., et al. study showed elevated CA19.9 in 80.8% in Pancreatic cancer [15]. In gallbladder cancer high level CA19.9 in 78% cases [16]. study done by ONO., *et al.* shown elevated CA19.9, CEA and increased AFP level inliver metastatic disease [17]. Study shown increased serum LDH level in carcinomastomach [18,19]. The prognosis of gastric cancer has improved in recent years but overall, 5-year survival rate is still poor [9,20].

Worldwide gastric cancer is common cancer. The mortality and incidence of gastriccancer is two times more common than average worldwide level. The incidence is increases with age and male: female ratio is 1.5-2.5. In young adult incidence is increasing in most of the patients presented in advanced stage. Tumour Markers are used for early diagnosis, [21-23]. treatment response, recur-

rence monitoring [24-27] Serum CEA, CA19.9 and AFP level have been used for diagnosis and detection of cancer recurrence and liver metastasis in gastric carcinoma [28-32]. U car et.al. reported in patients of liver metastases in gastric cancer CEA levels and increased CA19.9in patients of lymph node invasion Or metastases and invasion beyond serosa [27].

CA19.9 Raised in all stages of gastric cancer. Shukla., *et al.* [33]. reported same finding. In our Study sensitivity of CA19.9 CEA shown 82% and specifically shown 92%, 88.78% respectively. Study done by Brockmann et.al shown CA19.9 sensitivity of 76.5% for pancreatic ca and Specificity 96.4% [16]. Among the all of serum tumour markers used for diagnosis of pancreatic Cancer, CA19.9 is reported most sensitive [34-36] diagnostic accuracy of S. CA19.9 can be confirmed by correlation of finding of imaging techniques, it further increase the sensitivity of test upto 90% [35-42] sensitivity of test 69% and 90% and specificity ranged 80.8% and 89.1% respectively reported by other studies [39-48] sensitivity and specificity of CA125 in pancreatic Carcinoma 40% and 74% reported by some studies [34,42,43,46,51]. Due to false negative results CA125 Marker shown low sensitivity. The level of serum 19.9 reflects the total tumour cell burden. The level of Ca 19.9 also depends upon amount of non tumour expressing cells volume of tumour stroma consistant, inflammatory, degenerative, necrotic lesion secondary to tumours. [40,45,46,49], Our result also shown corelation tumour size with elevated 19.9 level. Presence of distant Metastases on peritoneal surface liver involvement also leads to increased level of tumour marker. CA19.9 and AFP reported elevated level of > 1000/ml Patients were found unresectable hepatocellular carcinoma tumour in 96% of cases. CA19.9 level lower than 370/ml reported high probability of operability and more than 10 month survival [38]. CA19.9 Level Tends to increase in all stages (stage 1 to stage IV) In our study unresectability found in patients with CA19.9 level more than 240 mg / ml. AFP at present best diagnostic index for diagnosis of early liver cancers. AFP Shows high specificity for diagnosis of liver cancers. Level of AFP also reflexes status of disease and therapeutic response 54. 19.9 level and had correlated with poor prognosis [52]. Another meta-analysis shown that CEA protein and mRNA level in peritoneal levage shown associated with gastric cancer after surgery [53]. A meta-analysis of 14.5% gastric patients shown that serum CEA level was independent prognosis factor for carcinomastomach [54] Elevated AFP level was related with poor prognosis in their meta-analysis of gastric cancer patients with elevated of CA125 in peritoneal lavage was correlated with peritoneal dissemination of disease and poor outcome. [57-60]. Sensitivity of CA19.9 in liver cancer shown 87.44% and specifically shown 85.7% Which CEA Sensitivity shown in CA liver 83% and Specifically 88%. AFP sensitivity shown 85% and specifically was 89.05%. The level of AFP were found Significantly higher in larger tumour (>10..) than smaller one (<4..) jing jeakar [23].

LDH

Capacity of tumour cells to proliferate leads to alteration in metabolism of cell that resulted change in level of various Hormonal, enzymatic level can be used as indicator of various malignancies and their complications [43,45] S. LDH is a nonfunctional enzyme and level is very low in growing period. Levels of S. LDH increases in plasma alter destruction of erythrocytes and plasma cells. It is considered as poor prognostic indicators and high risk of metastasis in disease in breast cancer, colorectal cancer, non-small cell lung cancer., Endometrial cancer andgastric cancer [61,62] Gio., *et al.* [63] reported serum. LDH level decreased approximately 75% during treatment and it has no impact on hepatocellular carcinoma survival. [64,65] Raised level of AFP and CA125 were reported. [66,67] A meta-analysis of 11408 gastric cancer patients shown that elevated level of AFP associated with liver metastatic and poor prognosis of gastric cancer [56-58] Elevation of CA125 in peritoneal lavage was found associated with peritoneal dissemination and poor outcome of CA stomach [59].

CA 125 antigen is useful for monitoring recurrence of disease assessing the efficacy of chemotherapeutic agents, predicting the prognosis of pancreatic carcinoma [40,49] advanced stage liver carcinoma [68,69] endometrial carcinoma [70], gastric carcinoma other than epithelial tumor elevated level ofCA125 corelated with poor prognosis and aggressive tumor biology.

CA19.9 is macromolecule glycoprotein its level is influenced by disease progression and regression. Expression of CA19.9 capable of confirmation of state of gastrointestinal tumors and Cholangiocarcinoma [66]. Its level isalmost undetectable in liver cancers [67].

CEA is a complex glycoprotein slimline found in colon cancer tissue Generally CEA found in gastrointestinal tract liver and pancreatic time in embryonic period.

After birth its level decreases, it's a broad-spectrum marker. Observations of usedas index for clinical efficacy and past operative follow up. CEA was highly sensitive for evaluation of recurrence and metastatic tumor and to Diagnose malignant and benign tumor and for evaluation post Operative recovery. Common tumor marker used are CA19.9, CEA Used in biliary treat cancer. Wang., *et al.* reported CA19.9 level increased as progression of clinical stage of disease [9]. Study done by sachan., *et al.* also shown increased value of CA19.9 with increase of clinical burden of disease CEA > 4, level did related with advancement of disease. CEA level shown utility for prognosis. Agrawal., *et al.* showed level of CA19.9 better 4 year survival in lower Ca 19.9 comparison shown to higher CA19.9 level [70] shown relevancy of S. CA19.9 for predicting recurrence. Sachan., *et al.* shown CA19-9 better tumor marker for assessing tumor burden, recurrence and prognosis.

Conclusion

Raised CA19.9, CEA helpful for prediction of metastatic and prognosis of gastrointestinal cancers. CA125 level shown increased level in gastro intestinal cancer with involvement of peritoneum.

LDH level showed in dependent tumor marker. Raised with involvement of peritoneum and enlargement of retroperitoneal lymph nodes with advanced Stage of disease.

AFP is a highly specific and sensitive tumor marker for diagnosis of hepatocellular and prognosis carcinoma. Elevation of all tumor marker in combination of other tumor marker shown risk factor for poor prognosis of gastrointestinal cancers.

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