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SERUM INFLAMMATORY BIOMARKERS IN HEPATOBILIARY CANCER PATIENTS

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Abstract:

Objective: *To determine the serum inflammatory biomarkers in hepatobiliary cancer patients.*

Patients And Methods: *A total of fifty patients fulfilling inclusion criteria were individuals with hepatobiliary cancer classified as stage IV disease were recruited in this two year cross sectional study (2015-17) conducted at tertiary care hospital. Patient demographic and clinicopathological characteristics and biochemical markers were investigated. Biochemical markers, including serum ferritin, Hb, total bilirubin, AST, alanine aminotransferase (ALT), gamma-glutamyl transpeptidase (γ-GT), prothrombin time international normalized ratio (PT INR), albumin, WBC, and C-reactive protein (CRP), were assessed from peripheral blood testing whereas the frequency / percentages (%) and means ±SD computed for study variables.*

Results: *During six month study period total fifty patients having hepatobiliary cancers were explored and study. The mean ± SD for age (yrs) of population was 52.86±7.85. Raised Serum ferritin 32 (64%), low hemoglobin level 28 (56%), raised bilirubin 15 (30%), raised AST 18 (36%), raised ALT 21 (42%), low albumin 12 (24%), raised TLC 30 (60%) and raised CRP 16 (32%).*

Conclusion: *The increased serum ferritin was significantly associated with poor survival outcome, showing positive correlation with CRP as well.*

Keywords: *Ferritin, inflammatory markers and hepatobiliary cancer.*

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INTRODUCTION:

Hepatobiliary malignant growths, including hepatocellular carcinoma (HCC) and biliary tract diseases (BTC) are regularly serious and profoundly deadly tumors. The BTC are named either cholangiocarcinoma of the bile duct or gall bladder cancer, as per the site of the tumor [1]. Patients with cutting edge hepatobiliary malignant growths have restricted fundamental chemotherapy alternatives: sorafenib for cutting edge HCC and cisplatin in addition to gemcitabine for cutting edge BTC [2]. In contrast to different kinds of malignant growth, the movement of hepatobiliary tumors is profoundly identified with liver capacity. Ferritin is an iron stockpiling protein that is bottomless in intracellular compartments [3]. A limited quantity of ferritin additionally exists in blood and is called serum ferritin. Serum ferritin is a surrogate marker of put away iron, and 1 ng/mL of serum ferritin is equivalent to 8 mg of put away iron. The degree of serum ferritin will in general increment with age and is moderately higher in men than in ladies. Raised serum ferritin frequently demonstrates iron over-load, however it likewise increments in irritation, liver disease, and malignancy.

PATIENT AND METHODS:

A total of fifty patients fulfilling inclusion criteria were individuals with hepatobiliary cancer classified as stage IV disease were recruited in this two year cross sectional study (2015-17) conducted at tertiary care hospital while the patients were concurrently treated with any conventional cancer therapy such as transarterial chemoembolization, radiofrequency ablation (RFA), high-intensity focused ultrasound, surgery, chemotherapy, and radiotherapy were excluded in this study to eliminate the effects of conventional cancer therapy. Patients were interrogated in detail regarding their particulars, presenting complaints, past history, treatment received, any previous surgery done etc. Patient demographic and clinicopathological characteristics and biochemical markers were investigated. Biochemical markers, including serum ferritin, Hb, total bilirubin, AST, alanine aminotransferase (ALT), gamma-glutamyl transpeptidase (γ-GT), prothrombin time international normalized ratio (PT INR), albumin, WBC, and C-reactive protein (CRP), were assessed from peripheral blood testing. Patients were regularly monitored and complications (if any) were recorded based on investigations and clinical findings while were treated accordingly. The data was collected on pre-designed proforma and analyzed in SPSS to manipulate the frequencies and percentages.

RESULTS:

During six month study period total fifty patients having hepatobiliary cancers were explored and study. The mean ± SD for age (yrs) of population was 52.86±7.85. The demographical and clinical profile of study population is presented in Table 1.

TABLE 1: THE DEMOGRAPHICAL AND CLINICAL PROFILE OF STUDY POPULATION

Parameter	Frequency (N=50)	Percentage (%)
AGE (yrs)		
20-29	06	12
30-39	10	20
40-49	17	34
50-59	11	22
60+	06	12
GENDER		
Male	35	70
Female	15	30
RESIDENCE		
Urban	20	40
Rural	30	60
INFLAMMATORY BIOMARKERS		
Raised serum ferritin	32	64
Low Hemoglobin level	28	56
Raised Bilirubin	15	30
Raised AST	18	36
Raised ALT	21	42
Low albumin	12	24
Raised TLC	30	60
Raised CRP	16	32

DISCUSSION:

Hepatobiliary malignancies are lethal diseases as a rule analyzed at an advanced stage. Just a minority of patients are qualified for healing medicines [4]. For patients with cutting edge hepatobiliary malignancies, exact anticipation is crucial for settling on further administration as a result of the forceful attributes of cutting edge disease. Recognizing straightforward and effectively open biomarkers for clinical application is vital. To recognize a potential biomarker for foreseeing endurance, this investigation evaluated the essentialness of serum ferritin as a potential prognostic factor in patients with advanced hepatobiliary cancers [5, 6]. Connection examinations right now critical positive relationships between's serum ferritin and aggravation related biochemical markers, CRP and WBC. In subgroup investigations, as indicated by serum ferritin level, CRP and WBC demonstrated essentially unique conveyance relying upon the serum ferritin level and these discoveries bolster the connection between's serum ferritin and CRP and WBC in cutting edge hepatobiliary malignant growth patients [7]. Beside irritation, harmed hepatobiliary malignant growth cells may likewise influence the estimation of serum ferritin since it was associated with ALT, γ-GT and PT INR. In any case, past examinations additionally indicated relationship between serum aminotransferase and serum ferritin, which was like this investigation result, proposing that serum ferritin originated from harmed cells, and harmed cells discharge iron-rich ferritin into the serum [8]. Our outcomes additionally demonstrate CRP, liver proteins and leukocyte tally can be considered with serum ferritin in foreseeing forecast in patients with advanced hepatobiliary cancers.

CONCLUSION:

The increased serum ferritin was significantly associated with poor survival outcome, showing positive correlation with CRP as well. Thus serum ferritin was identified as an independent prognostic factor for survival in advanced hepatobiliary malignancies.

REFERENCES:

1. Tabrizian P, Jibara G, Hechtman JF, Franssen B, Labow DM, Schwartz ME, et al. Outcomes following resection of intrahepatic cholangiocarcinoma.HPB (Oxford). 2015;17(4):344–51.
2. Hyder O, Hatzaras I, Sotiropoulos GC, Paul A, Alexandrescu S, Marques H, et al. Recurrence after operative management of intrahepatic cholangiocarcinoma. Surgery. 2013;153(6):811–8.
3. Jarnagin WR, Ruo L, Little SA, Klimstra D, D'Angelica M, DeMatteo RP, et al. Patterns of initial disease recurrence after resection of gallbladder carcinoma and hilar cholangiocarcinoma: implications for adjuvant therapeutic strategies. Cancer. 2003;98(8):1689–700.
4. Augustine MM, Fong Y. Epidemiology and risk factors of biliary tract and primary liver tumors. Surg Oncol Clin N Am. 2014;23(2):171-88.
5. Facciorusso A, Del Prete V, Antonino M, Neve V, Crucinio N, Di Leo A, et al. Serum ferritin as a new prognostic factor in hepatocellular carcinoma patients treated with radiofrequency ablation. J Gastroenterol Hepatol. 2014;29(11):1905–10.
6. Ji M, Li XD, Shi HB, Ning ZH, Zhao WQ, Wang Q, et al. Clinical significance of serum ferritin in elderly patients with primary lung carcinoma. Tumour Biol. 2014;35(10):10195–9.
7. Kalousova M, Krechler T, Jachymova M, Kubena AA, Zak A, Zima T. Ferritin as an independent mortality predictor in patients with pancreas cancer. Results of a pilot study. Tumour Biol. 2012;33(5):1695–700.
8. Koyama S, Fujisawa S, Watanabe R, Itabashi M, Ishibashi D, Ishii Y, et al. Serum ferritin level is a prognostic marker in patients with peripheral T-cell lymphoma. Int J Lab Hematol. 2017;39(1):112–7.