Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/14611
DOI URL: http://dx.doi.org/10.21474/IJAR01/14611

CASE REPORT

A CASE REPORT ON HILAR CHOLANGIOCARCINOMA WITH DUODENAL WHIPWORMS

Eldhose Elias George[1], Dr. Bony George[2], Anjali Shaju[1] and Dr. Shaji George[3]

1. PharmD interns, Nirmala College of Pharmacy, Muvattupuzha, Kerala, India, 686661.
2. Gastroenterologist and Interventional Endoscopist, Chazhikattu Hospital, Thodupuzha, 685584.
3. Professor & Principal, Holy Grace Academy of Pharmacy, Mala, Irinjalakuda, Kerala, India, 680732.

Manuscript Info

Manuscript History
Received: 25 February 2022
Final Accepted: 27 March 2022
Published: April 2022

Key words:-
Cholangiocarcinoma, Whipworms, Liver, Gall Bladder

Abstract

Hilarcholangiocarcinoma is a kind of bile duct cancer that develops in the bile ducts that exit the liver and connect to the gallbladder (hepatic ducts). Cholangiocarcinoma develops when the DNA of cells in the bile ducts changes. We present here a case of hilarcholangiocarcinoma associated with whipworms. The patient was admitted with chief complaints of pruritus, painless progressive jaundice, weight loss and loss of appetite for 3 weeks. Lab values, serology reports, USG scanning, MRCP and biopsy was suggestive of hilarcholangiocarcinoma and whipworms. The patient was given anthelminthic therapy for whipworms and sent to medical college for the tratment of carcinoma.

Introduction:-

Cholangiocarcinoma (CC) is an uncommon biliary cancer that affects epithelial cells in the intrahepatic, perihilar, and extrahepatic bile ducts. Adenocarcinomas are the most common histopathological kind (95 per cent of cases). Because most cholangiocarcinomas are locally progressed at presentation, they are highly fatal. Perihilar cases account for almost half of all cases, distal cases for 40%, and intrahepatic cases for 10%[(1).] Hilarcholangiocarcinomas are also known as Klatskin tumors. Although many cases of cholangiocarcinoma develop spontaneously and without a known cause, a variety of risk factors have been discovered, including essential hepatobiliary illness, genetic diseases, chemical exposures, and infections. Primary sclerosingcholangitis, fibropolycystic liver disease, cholelithiasis/cholecystitis, and chronic liver disease are all examples of primary hepatobiliary illnesses. Primary sclerosing cholangitis is linked to cholangiocarcinoma, with roughly 30% of cholangiocarcinomas detected in people with this condition.[(2)]Cholangiocarcinomas are the second most prevalent primary liver tumours, accounting for around 10-15% of all hepatobiliary malignancies. They account for roughly 3% of all gastrointestinal malignancies.[(3)]

In recent years, the incidence of intrahepatic lesions has increased while the frequency of extrahepatic lesions has decreased. As with many cancers, the incidence rises with age, with 50 to 70 being the most common age range. Men are somewhat more likely than women to be diagnosed with cholangiocarcinoma, likely owing to the prevalence of primary sclerosing cholangitis in men.[(4)] Like many other cancers, Cholangiocarcinoma develops from precursor lesions such as the more common biliary intraepithelial neoplasia and the less common intraductal papillary mucinous neoplasm. Mutations in various oncogenes and tumour suppressor genes cause the normal epithelium to become one of these premalignant lesions. While the precise molecular mechanism has yet to be

Corresponding Author:- Eldhose Elias George
Address:- Doctor of Pharmacy Intern, Nirmala College of Pharmacy, Muvattupuzha, Kerala University of Health Sciences, Thrissur, Kerala, India, 686661.

determined, cholangiocarcinomas are characterised by mutations in genes such as RAS, BRAF, p52, SMAD4, and others. [5]

Cholangiocarcinoma develops from bile duct epithelial cells and can occur anywhere along the intrahepatic or extrahepatic bile ducts. The majority of cholangiocarcinomas (90-95 per cent) are adenocarcinomas, with the remainder being predominantly squamous cell carcinomas. They are further classified as sclerosing, nodular, and papillary based on morphology. Combined hepatocellular-cholangiocarcinoma is a kind of ambiguous cholangiocarcinoma staged as intrahepatic cholangiocarcinomas rather than hepatocellular carcinomas.[6] Although surgery is the only curative option, Cholangiocarcinoma can be treated medically or surgically. The success of corrective surgery is determined by the tumour site, bile duct involvement, nodal involvement, metastatic involvement, and the tumour's proximity to essential vasculature. Extrahepatictumours typically have the most remarkable surgical outcomes. Even with total resection, recurrence is common.[7] The goal of treatment in patients with advanced disease is to provide appropriate palliation through biliary stent implantation, photodynamic therapy, transarterial chemoembolization, and radiofrequency ablation in selected cases of mass-forming lesions. In addition, biliary bypass surgery is being evaluated for palliation in individuals whose stent insertion has failed or is not viable. In certain patients, liver transplantation can increase survival time.[8]Tests and procedures used to diagnose hilarcholangiocarcinomainclude:Imaging tests, such as computerized tomography (CT) and magnetic resonance imaging (MRI), Blood test for very high levels of the CA 19-9 tumor marker, Biopsy using endoscopic retrograde cholangiopancreatography (ERCP) or endoscopic ultrasound and specialized lab testing with fluorescence in situ hybridization (FISH)

Trichuristrichiura is a roundworm that causes trichuriasis in humans. It is also known as the human whipworm. It is known as the whipworm because it resembles a whip with wide grips at the back end. The whipworm has a thick posterior anus and a tiny anterior oesophagus. The worms are typically pink in colour and connect to the host through the narrow anterior end. These worms range in size from 3 to 5 cm. Females are often larger than males.[9]Ingestion of infected eggs found in soil is the most common cause of trichuriasis. This is frequently due to poor hygienic circumstances, such as open defecation and human excrement as fertiliser. According to certain recent studies, people with particular chromosome features may be predisposed or have an increased sensitivity to developing trichuriasis.[10]Trichuriasis is treated with mebendazole or albendazole. Mebendazole is prescribed at a dose of 100 mg twice daily for three days, whereas albendazole is prescribed at 200 to 400 mg twice daily for three days. Mebendazole has been demonstrated to be more effective and is now recommended as first-line therapy. Albendazole and mebendazole limit tubulin polymerization, resulting in the loss of cytoplasmic microtubules. Although ivermectin 200 mcg/kg daily can be utilized, it is not as effective as mebendazole and albendazole.

Case Summary

An 80 year old male was admitted with chief complaints of pruritus, painless progressive jaundice, weight loss and loss of appetite for 3 weeks. The patient is a known case of Type 2 diabetes mellitus and was on treatment with oral hypoglycemic agents. On examination temperature was found to be normal, blood pressure was also within normal limits, pulse rate and respiratory rate was also adequate.

Lab investigations

Blood tests results were obtained as follows.

Hb - 11.2 g/dl, Hematocrit - 32.9 %, WBC count - 17890 cells/mm³ , Neutrophil - 87%, Lymphocytes - 7%, Monocytes - 30%, Eosinophil - 1%, Basophil - 0%, Platelet count - 5.09L/mm³, CRP - 156.4 mg/l

Serology investigations were done for HBSAg, HIV and HCV and were found to be negative. Anti-HEV IgM was found to be positive with sample observance of 0.610. CA-19.9 was done and found to be 4.81 U/ml.

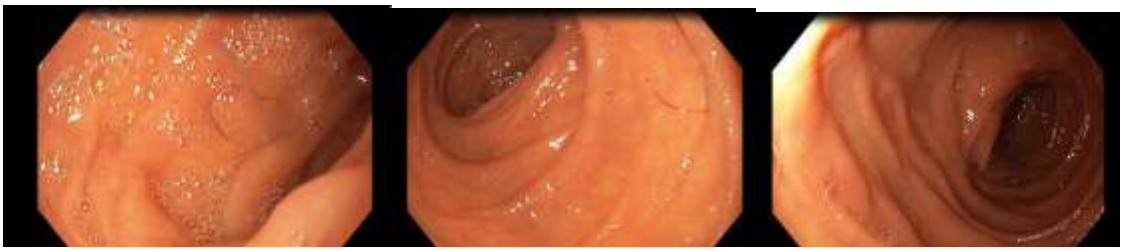
Blood urea - 50mg%, Creatinine - 1.2 mg% found for renal function test.

On examining liver function test, Total bilirubin - 19.2 mg%, Direct bilirubin - 10.22 mg%, SGOT - 172 U/L, SGPT - 218U/L, ALP- 1100 U/L, Total protein - 5 gm%, Albumin - 2.8gm%, Globulin - 2.2 gm%.

USG abdomen was done and is indicative of hilarcholangioma.

MRCP procedure was done and confirmed hilarcholangiocarcinoma. Report was as follows, abrupt narrowing of right anterior, right posterior and left bile duct with non visualization of right bile duct, common hepatic duct and cystic duct, irregular luminal narrowing of GB neck. These features are suspicious of cholangiocarcinoma.

Oesophago Gastro Duodenoscopy shows multiple whip worms in the region of D1, D2 and D3. Biopsy was taken and send for evaluation.



Histopathology was done and as follows. Descending colon - fragments of necrotic material containing nuclear debris and neutrophils. Sigmoid colon - nerotic material with focal macrophage collection - necrotising inflammation and focal macrophage reaction.

Diagnosis

The lab result and other investigations the patient was confirmed to be having a hilarcolongioma with the presence of multiple whip worms in the intestine.

Treatment

The patient was given a Tab. Atarax 25mg BD, Tab. Golbi 300 mg TID, Inj. Pantop 40mg IV OD, Inj. Emeset 6 mg IV sos, Inj. Piptaz 4.5g IV Q6H, Inj. VitK 10mg IV OD, Tab. Bandy Plus BD, Tab. Faropenem 200mg BD. The patient was taken to Government medical College Kottayam for better treatment.

Discussion:-

The treatment for hilarcholangiocarcinoma did not commence in the hospital where the authors worked. The patient's relatives drove him to the medical college for cancer treatment. According to treatment guidelines, whipworms are treated with antihelminthic agents like Albendazole or Mebendazole. Albendazole promotes degenerative changes in the worm's intestinal cells by binding to the colchicine-sensitive region of -tubulin, preventing it from polymerizing or assembling into microtubules. A combination with Ivermectin 200 mg/kg was given in combination with Albendazole for increased efficacy. Ivermectin binds with high affinity to the glutamate-gated chloride channel found in invertebrate nerve and muscle cells, increasing cell membrane permeability to chloride ions and inducing nerve and muscle cell hyperpolarization.

Conclusion:-

Bile will be reabsorbed into the blood and body tissue due to the hilarcholangiocarcinoma, causing symptoms such as jaundice (yellowing of the skin and whites of the eyes), itching, pale faeces, and dark urine, unintended weight loss. Pleural effusion was the most common consequence identified in 66 (62.9%) individuals, followed by wound infection in 39 (37.1%) and liver failure in 29. (27.6 per cent). Liver failure occurred in 16.7% of 48 patients with less than 50% liver resection and 36.8% of 57 patients with 50% or more significant resection. Chronic dysentery, rectal prolapse, and development retardation are all complications of heavy whipworm infection. With anthelmintic treatment, the prognosis is excellent, and full recovery takes 1 to 2 weeks. Trichuris dysentery syndrome can develop if severe infection is not treated. So, in order to avoid difficulties, whip worms must be treated as soon as possible.

Acknowledgement:-

The author would like to thank the staff and members of the Gastroenterology department of Chazhikattu Hospital, Thodupuzha. We would like to express sincere gratitude to the staff and the post-graduate students of the Department of Pharmacy Practice, Nirmala College of Pharmacy.

Disclosure Of Funding :
None

Conflict Of Interest:
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Author Contributions
1. Conception or design of the work – Eldhose Elias George, Anjali Shaju,DrShaji George, Dr Bony George,
2. Data collection - Eldhose Elias George, Anjali Shaju
3. Data analysis and interpretation - Eldhose Elias George, Anjali Shaju,Dr Bony George
4. Drafting the article - Eldhose Elias George, Anjali Shaju
5. Critical revision of the article - Eldhose Elias George, Anjali Shaju
6. Final approval of the version to be published - Eldhose Elias George, Anjali Shaju

Abbreviations
1. ALP - Alkaline phosphatase
2. BRAF - B-type Raf proto-oncogene
3. CC - Cholangiocarcinoma
4. CRP - C-reactive protein
5. CT - Computed tomography
6. ERCP - Endoscopic retrograde cholangiopancreatography
7. FISH - Fluorescence in situ hybridization
8. MRCP - Magnetic resonance cholangiopancreatography
9. MRI - Magnetic resonance imaging
10. SGOT - Serum glutamic-oxaloacetic transaminase
11. SGPT - Serum glutamic-pyruvic transaminase
12. USG - Ultrasound sonography
13. WBC – White blood cells

References:-

1. DeOliveira ML, Cunningham SC, Cameron JL, Kamangar F, Winter JM, Lillemoe KD, Choti MA, Yeo CJ, Schulick RD. Cholangiocarcinoma: thirty-one-year experience with 564 patients at a single institution. Ann Surg. 2007 May;245(5):755-62
2. Bergquist A, Ekbom A, Olsson R, Kornfeldt D, Lööf L, Danielsson A, Hultcrantz R, Lindgren S, Prytz H, Sandberg-Gertzén H, Almer S, Granath F, Broomé U. Hepatic and extrahepatic malignancies in primary sclerosing cholangitis. J Hepatol. 2002 Mar;36(3):321-7
3. Khan AS, Dageforde LA. Cholangiocarcinoma. SurgClin North Am. 2019 Apr;99(2):315-335
4. Massarweh NN, El-Serag HB. Epidemiology of Hepatocellular Carcinoma and Intrahepatic Cholangiocarcinoma. Cancer Control. 2017 Jul-Sep;24(3):1073274817729245
5. Uson Junior PLS, Borad MJ. Precision approaches for cholangiocarcinoma: progress in clinical trials and beyond. Expert OpinInvestig Drugs. 2022 Jan 07;:1-7.
6. Akiba J, Nakashima O, Hattori S, Tanikawa K, Takenaka M, Nakayama M, Kondo R, Nomura Y, Koura K, Ueda K, Sanada S, Naito Y, Yamaguchi R, Yano H. Clinicopathologic analysis of combined hepatocellular-cholangiocarcinoma according to the latest WHO classification. Am J SurgPathol. 2013 Apr;37(4):496-505
7. Fujiwara Y, Ioka T, Matsui H, Tokumitsu Y, Shindo Y, Matsukuma S, Nakajima M, Yamada K, Watanabe Y, Tomochika S, Yoshida S, Iida M, Suzuki N, Takeda S, Nagano H. [A Case of Intrahepatic Cholangiocarcinoma in the Elderly Patient with Curative Resection after Neoadjuvant Chemotherapy]. GanTo Kagaku Ryoho. 2021 Dec;48(13):2085-2087.
8. Casadio M, Cardinale V, Klümpen HJ, Morement H, Lacasta A, Koerkamp BG, Banales J, Alvaro D, Valle JW, Lamarca A. Setup of multidisciplinary team discussions for patients with cholangiocarcinoma: current practice and recommendations from the European Network for the Study of Cholangiocarcinoma (ENS-CCA). ESMO Open. 2022 Jan 27;7(1):100377.
9. Bansal R, Huang T, Chun S. Trichuriasis. Am J Med Sci. 2018 Feb;355(2):e3

10. Williams-Blangero S, Vandeberg JL, Subedi J, Jha B, Dyer TD, Blangero J. Two quantitative trait loci influence whipworm (Trichuristrichiura) infection in a Nepalese population. J Infect Dis. 2008;197(8):1198-1203. doi:10.1086/533493.