International Journal of Inflammation, Cancer and Integrative Therapy

Perspective Open Access

One of the Etiological Causes for Gallbladder Cancer may be H. Pylori Infection in Gallbladder

Meiqi Lu*

Department of Radiotherapy and Chemotherapy, First Affiliated Hospital of Jiamusi University, China

Abstract

One of the most prevalent chronic bacterial illnesses is known as helicobacter pylori. In addition to being the primary pathogenic agent in chronic gastritis, peptic ulcers, and gastric cancer, it has also been suggested as the etiological factor in illnesses of organs other than the stomach and duodenum, such as the liver, biliary system, heart and vascular system, and skin. We wanted to briefly examine the connection between H. pylori infection and gallbladder conditions such chronic cholecystitis, cholelithiasis, and gall bladder cancer in this mini-review. According to our study, gallbladder H. pylori infection may be one of the etiological factors contributing to gallbladder disorders. More research is necessary to confirm the specific process.

Keywords: Helicobacter pylori; Gallbladder; Chronic cholecystitis; Cholelithiasis; Gallbladder cancer

Introduction

The gram-negative, microaerophilic spiral rod known as Helicobacter pylori (H. pylori) has 4-7 flagella [1]. It is acknowledged as one of the most widespread chronic bacterial diseases in the world, affecting almost half the world's population. And it has been demonstrated to be the primary pathogenic agent in chronic duodenal, gastric, and gastritis ulcers [2]. Atrophic gastritis, gastroesophageal reflux disease (GERD), gastric mucosa-associated lymphoid tissue (MALT) lymphoma, gastric cancer, and nonulcer dyspepsia [3].

Investigations and reports have been made about the association of H. pylori with illnesses affecting organs other than the stomach and duodenum [4]. Patients with chronic liver diseases, non-alcoholic fatty liver diseases, non-alcoholic steatohepatitis, liver fibrosis, primary sclerosing cholangitis, primary biliary cirrhosis, intrahepatic stones, hepatic encephalopathy in patients with cirrhosis, and hepatocellular carcinoma were found to have H. pylori antibodies in their livers, bile ducts [5-8].

In atherosclerosis, acute coronary ischemia (biopsies from the aorta and internal mammary artery), coronary heart disease (CHD), and atheroma, there occurs cholelithiasis in the heart and arteries [9,10]. Additionally, rosacea, chronic urticaria, and Sweet's syndrome affect the skin [11,12]. In addition, H. pylori has been linked to megaloblastic anaemia, cobalamin insufficiency, vitamin B-12 deficiency, and iron deficiency anaemia in children [13,14].

We wanted to briefly examine the connection between H. pylori infection and gallbladder conditions such chronic cholecystitis, cholelithiasis, and gall bladder cancer in this mini-review.

Chronic cholecystitis

This discovery led to the issue of whether gallbladder colonisationv with H. pylori would be the source of chronic inflammation similar to the relationship of H. pylori in chronic gastric inflammation after Sabbaghian shown that GERD and gastritis are typically present in biliary dyskinesia [15]. Moricz. Patients with chronic cholecystitis had a high incidence of H. pylori infection, and it was suggested that this bacterial infection may be linked to a pathogenic process. Chen DF demonstrated the connection between Gallbladder mucosa metaplasia with chronic cholecystitis, with implies maybe connected to the H. Infection with H. pylori in the gallbladder. Additionally, they demonstrated a substantial correlation relationship Interleukin-1 (IL-1), IL-6, and IL-8 and H pylori positive levels in the gallbladder, suggesting that these ILs could take role in pathogenesis of chronic cholecystitis. This outcome is constant insights regard to how ILs contribute to the development of gastritis caused by H pylori and gastroenteritis.

Cholelithiasis

In the gallbladder mucosa of a patient who underwent cholecystectomy for the first time in 1996 and had gallstones and cholecystitis, Kawaguchi found H. pylori for the first time. There are conflicting findings from several research that support or refute the hypothesis that H. pylori has a role in the development of gallstones. For the opposing camp, we may suggest that bile stasis brought on by biliary obstruction can result in bacterial overgrowth and gallstone production.

Gallbladder cancer

Patient demographics, gallbladder abnormalities, patient exposure, and infections with Salmonella and Helicobacter are risk factors for the development of gallbladder cancer. Hassan hypothesised that the H. pylori infection might exacerbate gallbladder mucosal lesions that are possibly precancerous (mucosal hyperplasia, metaplasia, and lymphoid infiltration), which are associated with biliary tract carcinoma (gallbladder cancer, and cholangiocarcinoma). There are several potential explanations for the link between H. pylori infection and gallbladder cancer. Interfering with cell proliferation and death. Increasing cellular inflammatory response (IL-8 production). The perigenetic pathway: inflammation and elevated TNF- and IL-6 production modify cell adhesion and cause mutant epithelial cells to

***Corresponding author:** Meiqi Lu, Department of Radiotherapy and Chemotherapy, First Affiliated Hospital of Jiamusi University, China, E-mail: meiqilu@outlook.com

Received: 29-Jul-2022, Manuscript No. ijm-22-72860; **Editor assigned:** 01-Aug-2022, PreQC No. ijm-22-72860(PQ); **Reviewed:** 15-Aug-2022, QC No. ijm-22-72860; **Revised:** 20-Aug-2022, Manuscript No. ijm-22-72860(R); **Published:** 27-Aug-2022, DOI: 10.4172/2381-8727.1000198

Citation: Lu M (2022) One of the Etiological Causes for Gallbladder Cancer may be H. Pylori Infection in Gallbladder. Int J Inflam Cancer Integr Ther, 9: 198.

disperse and migrate. The proinflammatory signalling pathways are activated in hepatobiliary cells by Cag PAI, a virulence factor of H. pylori, in a manner similar to how it affects gastric epithelial cells.

Conclusion

Our research suggests that one of the etiological reasons for gallbladder illnesses may be H. pylori infection in the gallbladder. Additional research is needed to confirm the specific process.

Acknowledgement

Not applicable.

Conflict of Interest

Author declares no conflict of interest.

References

1. Lacy BE, Rosemore J (2001) Helicobacter pylori ulcers and more the beginning of an era. J Nutr 131: 789-793.
2. Shah SC, Iyer PG, Moss SF (2021) AGA Clinical Practice Update on the Management of Refractory Helicobacter pylori Infection Expert Review. Gastroenterol 160: 1831-1841.
3. Wang L, Chen J, Jiang W, Cen L, Pan J, et al. (2021) The Relationship between Helicobacter pylori Infection of the Gallbladder and Chronic Cholecystitis and Cholelithiasis: A Systematic Review and Meta-Analysis. Can J Gastroenterol Hepatol.
4. Attaallah W, Yener N, Ugurlu MU, Manukyan M, Asmaz E, et al. (2013) Gallstones and Concomitant Gastric Helicobacter pylori Infection. Gastroenterol Res Pract 643: 1-109.
5. Waluga M, Kukla M, Zorniak M, Bacik A, Kotulski R. et al. (2015) From the stomach to other organs Helicobacter pylori and the liver. World J Hepatol 7: 2136-2146.
6. Avenaud P, Marais A, Monteiro L, Le Bail B, Bioulac Sage P, et al.(2000) Detection of Helicobacter species in the liver of patients with and without primary liver carcinoma. Cancer 89: 1431-1439.
7. Nilsson I, Lindgren S, Eriksson S, Wadstrom T (2000) Serum antibodies to Helicobacter hepaticus and Helicobacter pylori in patients with chronic liver disease. Gut 46: 410-414.
8. Lee JW, Lee DH, Lee JI, Jeong S, Kwon KS, et al. (2010) Identification of Helicobacter pylori in Gallstone Bile and Other Hepatobiliary Tissues of Patients with Cholecystitis. Gut Liver 4: 60-67.
9. Chen DF, Hu L, Yi P, Liu WW, Fang DC, et al. (2007) H pylori exist in the gallbladder mucosa of patients with chronic cholecystitis. World J Gastroenterol 13: 1608-1611.
10. Jahantab MB, Safaripour AA, Hassanzadeh S, Yavari Barhaghtalab MJ (2021) Demographic Chemical and Helicobacter pylori Positivity Assessment in Different Types of Gallstones and the Bile in a Random
11. Sample of Cholecystectomied Iranian Patients with Cholelithiasis. Can J Gastroenterol Hepatol 9: 3351-3352.
12. Izadi M, Fazel M, Sharubandi SH, Saadat SH, Farahani MM, et al. (2012) Helicobacter species in the atherosclerotic plaques of patients with coronary artery disease. Cardiovasc Pathol 21(4): 307-311.
13. Danesh J, Wong Y, Ward M, Muir J (1999) Chronic infection with Helicobacter pylori, Chlamydia pneumoniae, or cytomegalovirus: population based study of coronary heart disease. Heart 81: 245-247.
14. Sabbaghian MS, Rich BS, Rothberger GD, Cohen J, Batash S, et al. (2008) Evaluation of surgical outcomes and gallbladder characteristics in patients with biliary dyskinesia. J Gastrointest Surg 12: 1324-1330.
15. Moricz Ad, Melo M, Castro AM, Campos T, Silva RA, et al. (2010) Prevalence of Helicobacter spp in chronic cholecystitis and correlation with changes on the histological pattern of the gallbladder. Acta Cir Bras 25: 218-224.
16. Chen DF, Hu L, Yi P, Liu WW, Fang DC, et al. (2007) H pylori are associated with chronic cholecystitis. World J Gastroenterol 13: 1119-1122.