Original Research Paper

Volume - 11 | Issue - 10 | October - 2021 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Surgery

IS COVID VIRUS CAUSING LIVER ABSCESS?

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ABSTRACT **Case Series:** Here is a case series of 6 patients who were suffering from liver abscess, they all were covid antibodies positive and were not vaccinated.

Discussion : There were many consequences post covid infection like thromboembolism of limbs leading to amputation , ARDS, Stroke, etc. Lie wise liver abscess cases were also increased during covid time and all the pus culture reports were sterile. Researches at higher center must look in to this so that we can manage the covid liver abscess.

KEYWORDS :

INTRODUCTION :

A hepatic abscess is defined as "a localized collection of pus surrounded by inflammatory tissue." Others defined it as a mass caused by invasion of microorganisms into healthy liver parenchyma. Causes include bacterial, parasitic, and fungal .[1]In pyogenic liver abscess, bacteria are the invasive microorganisms and the abscess contains pus. After the covid pandemic , it was observed there was sudden rise in the patient of liver abscess. Now the question arises Covid is a new cause of liver abscess?

MATERIALS AND METHODS:

Here is a case series of 6 cases , all patients are having positive covid antibodies.inMGMMC & MY Hospital

Case report 1: 60 year male presented with abdominal pain since 4-5 days associated with fever. On examination was tachycardiac and Per abdominal patient was having distension, tenderness and guarding. USG S/o 9.1.x5.8x9.3 cm liqueified liver abscess ? Ruptured liver abscess. Patient had undergone exploratory laprotomy in which thorough peritoneal lavage was given and Liver abscess was drained with drain placement. Pus Culture and Sensitivity report was sterile. Covid antibodies level 7.2 COI. Patient was not vaccinated for covid.

Case report 2 : 65 year male presented with abdominal pain since 1 week h/o fever + . On examination GC was poor ,P = 120 BP 80/60 , PA distension, tender and guarding. Patient was taken on inotropic support.USG was s/o 7.5x7.3 cm ?ruptured liver abscess. . Pigtail was inserted 650 ml pus drained . Patient was treated conservatively , but was succumbed. . Pus Culture and Sensitivity report was sterile. Covid antibodies level 15.6 COI. Patient was not vaccinated for covid.

Case report 3 : 55 yr male presented with abdominal distnsion since 4-5 days associated with pain. Patient was disoriented since x 1 day. OE Pt was vitally stable. Pt was disoriented. Pa distension , tender and guarding +. USG s/o 5.8 x 5 cm , 3x2 cm multiple liver abscess was present. Pigtail was inserted 400ml pus drained . Patient was treated conservatively , but was succumbed. . Pus Culture and Sensitivity report was sterile. Covid antibodies level 14.8 COI. Patient was not vaccinated for covid.

Case Report 4: 35 year male presented with complaint of abdominal pain for 5 days. Patient was vitally stable, Pa Soft. USG s/o 11.8 x 13 cm partially liquefied abscess. Abscess was aspirated and around 30 ml frank pus was there. . Pus Culture and Sensitivity report was sterile. Covid antibodies level 12.2 COI. Patient was not vaccinated for covid. Case Report 5 : 55 year female pain , fever and non bilious vomiting x 4 days. Pa soft , tenderness at right upper quadrant. USG s/o 6.2 cm x 4.1 cm partially liquefied abscess in left of liver and 9x 8x9 cm partially liquefied abscess in which pigtail was inserted. . Pus Culture and Sensitivity report was sterile. Covid antibodies level 20.2 COI. Patient was not vaccinated for covid.

Case report 6: 3 year female complaint of right abdomeinal pain and anorexia since 1 month On examination PA NAD. USG s/o 8x8.6x 6 cm liquefied abscess.. Pigtail was inserted from which 600 ml frank was drained. Pus Culture and Sensitivity report was sterile. Covid antibodies level 11.6 COI. Patient was not vaccinated for covid.

DISCUSSION:

The incidence of pyogenic liver abscess increases in patients with comorbid conditions such as diabetes mellitus, malnutrition, and immunosuppression.

Causes of pyogenic liver abscess:

In the early decades of the twentieth century, the predominant cause of pyogenic liver abscess was pylephlebitis (infectious thrombophlebitis of the portal vein or any of its branches) from appendicitis.2

During the mid–twentieth century, the most common cause changed to biliary disease (benign and malignant). This change is attributed to the ease of diagnosis and treatment of appendicitis as well as an increasing prevalence of hepatobiliary disease.3 By the end of the twentieth century, malignant biliary strictures emerged as the most common cause of pyogenic liver abscess.

Biliary infections Intra-abdominal biliary infections currently account for most pyogenic liver abscesses (50%–60%).The underlying causes of biliary abscesses are malignant obstruction, instrumentation of the biliary ducts, choledocholithiasis, primary sclerosing cholangitis, Caroli disease, and (rarely) obstruction fromparasites such as Ascaris lumbricoides.4,5

Intra-abdominal infections : The intra-abdominal infections are usually appendicitis or diverticulitis, but infected GI tumors and inflammatory bowel disease can also lead to liver abscess formation. Now intra-abdominal infections account for 10% to 20% of all bacterial liver abscesses.[6]

Direct extension Direct extension from cholecystitis, perinephric abscess, and subphrenic abscess can cause pyogenic liver abscesses. Microbes invade the liver via contiguous spread from the gallbladder or nearby abscess.[4]

Hematogenous spread Blood stream bacteria enter the liver via the hepatic artery. Cases of bacteremia from endocarditis, severe sepsis, central line–associated blood stream infections.

Trauma Liver trauma, whether iatrogenic (eg, radiofrequency ablation [RFA], chemoembolization, surgery) or as direct blunt trauma, can cause pyogenic liver abscess.

Other risk factors for trauma-related abscesses are alterations to the liver anatomy that allow bacterial colonization, such as in choledochoenterostomy, biliary sphincterotomy, or biliary drainage. Abscesses occur in 5% of patients undergoing chemoembolization and less than 1% undergoing RFA. Abscesses after chemoembolization are more frequent in cases related to neuroendocrine tumors because they are surrounded by healthy tissue that develops necrosis after treatment.[7]

Posttraumatic abscesses have a higher incidence of anaerobic infection. Anaerobic bacteria can cause abscesses more quickly than aerobic bacteria; for instance, Clostridium abscesses may form as soon as 24 to 48 hours after trauma.

Due to known thromboembolism effect of covid , is covid is infecting liver also or in a necrotic area of liver there is formation of pus due to secondary infection.

Due to lack of availability , of virus detection in our institute , we failed to identify the exact cause of sterile liver abscess.

CONCLUSION:

Liver Abscess is a emergency lethal condition . if not managed properly , and the lead abcess may rupture and lead to severe peritonitis. Covid Virus may be involving liver, and causing abscess in it.

Researchers must look into this new disease of covid.

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