

Case Report

The Development of a Liver Abscess after Screening Colonoscopy: A Calculated Risk?

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Keywords

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- Klebsiellapneumoniae
- Colonoscopy
- Screening

Abstract

We present the case of a patient who developed a liver abscess following screening colonoscopy. The patient, a 63-year-old man with no significant medical history, underwent polypectomy of two polyps. Four days afterwards he appeared on our emergency department with fever, nausea and vomiting. He was diagnosed with a Klebsiellapneumoniae liver abscess. The patient was successfully treated with antibiotics for six weeks. This case shows one of the risks of screening colonoscopy. Given the high number of colonoscopy due to the colorectal screening programs, we should be aware of complications in this mostly asymptomatic group of patients.

ABBREVIATIONS

Ifobt: Immunoassay Fecal Occult Blood Test; CT: Computed Tomography; PLA: Pyogenic Liver Abscess; EMR: Endomucosal Resection

INTRODUCTION

In 2014a colorectal screening program was introduced in the Netherlands. The goal of this screening program is to reduce the mortality of colorectal cancer. Everyone between 55 and 75-years old receives every two year an invitation to participate in the screening program. A feces sample is taken and analyzed by an immunoassay fecal occult blood test (ifobt). If this test is positive there is an indication for colonoscopy, as in our case. However, there are several complications due to colonoscopy. This implies that due to colorectal screening programs iatrogenic disease may be introduced. We present a case of a complication after a screening colonoscopy.

CASE PRESENTATION

A 63-year-old man was included for colorectal screening because of his age. His medical history consists of atrium fibrillation, inguinal hernia and herniated nucleus pulposus. His feces sample was positive using ifobt. For this reason he underwent screening colonoscopy. The colonoscopy revealed diverticulosis and three polyps of which two were removed by polypectomy. The first polyp was located in the caecum and the second in the descending colon. The third polyp (Figure 1), located in the hepatic flexure, was left in situ for endomucosal resection (EMR) in the near future. The patient went back home after colonoscopy. However, four days after colonoscopy he showed up

on the emergency department with fever, nausea and vomiting. His blood results showed a high c-reactive protein (251mg/l, normal range 0-10 mg/l) and elevated liver enzymes (ALAT 169 IU/l, normal range 0-35 IU/l). Sonography of the abdomen showed a mass of 5.7 by 4.6 centimeters in the right liver lobe. An additional computed tomography (CT) of the abdomen was performed, confirming this liver abscess, no other abnormalities (Figure 2). Blood cultures grew Klebsiellapneumoniae. The patient was treated with antibiotics for a period of six weeks. After this period the c-reactive protein was normalized and the abscess was vanished on sonography. The antibiotics were stopped and the patient went for EMR of the third polyp in a referral center. The EMR was performed under prophylactic

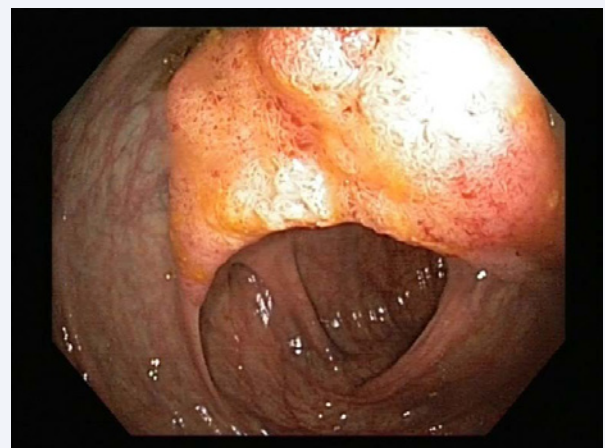


Figure 1 Polyp in the hepatic flexure.

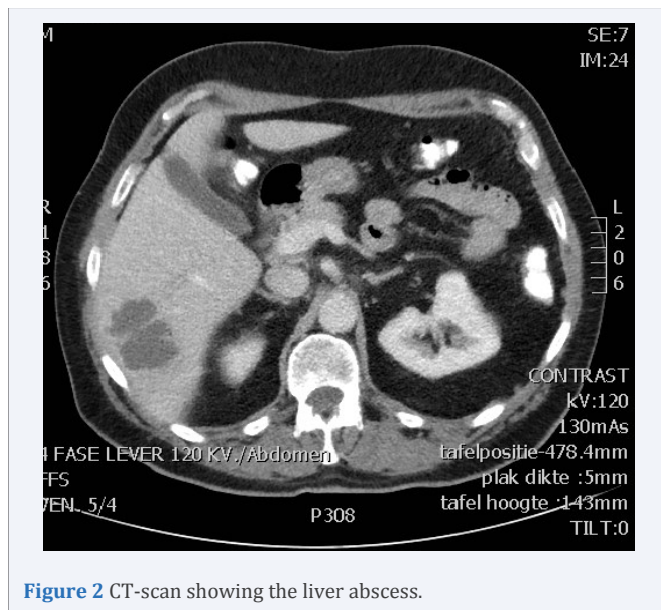


Figure 2 CT-scan showing the liver abscess.

antibiotics. This third polyp appeared to be benign, just like the other two polyps. All three were tubulovillous adenomas.

DISCUSSION

A pyogenic liver abscess (PLA) is a potentially life-threatening disease. There is a case-fatality rate of 5.6% observed in the United States and the incidence of PLA is increasing [1]. In approximately 27% of PLA the microorganism *Klebsiella pneumoniae* is the pathogenic microorganism [2]. Other common microorganisms causing PLA are the *Streptococcus milleri* group (44%), *Escherichia coli* (16%) and anaerobes (20%). Risk factors for a *Klebsiella pneumoniae* liver abscess are diabetes mellitus and metastatic infections [3,4]. The patient in our case had none of these risk factors.

However, the patient did have tubulovillous adenomas and he underwent colonoscopy. There are a few case reports suggesting tubulovillous adenomas are a risk factor for PLA, disregarding the pathogenic microorganism [5-7]. It could cause mucosal defects on site of lesions that allow a route for bacterial invasion into the portal system. Furthermore, there is a correlation between colonoscopy and the development of a PLA, although there is not much literature about the subject [8]. This could be due to the difficulty of finding a causal relationship between colonoscopy and a liver abscess. APLA after colonoscopy could be explained by the hypothesis of microperforations during colonoscopy, leading to bacterial invasion [6].

A large retrospective study from Taiwan showed an increased risk for the presence of colorectal carcinoma in patients with

a PLA caused by *Klebsiella pneumoniae*, compared to non-*Klebsiella pneumoniae* PLA [9]. Therefore it is advised to perform colonoscopy, if not already been done at the time of diagnosing a *Klebsiella pneumoniae* liver abscess.

In conclusion, we present a patient with a *Klebsiella pneumoniae* PLA four days after screening colonoscopy with polypectomy. One should be aware of the potential risk of developing a PLA following colonoscopy. At present it is not known which risk factors play a contributing role in developing a PLA. This might be the presence of polyps, or the performing of polypectomy, or the presence of diverticular disease. Fifty six percent of all PLA's is defined as cryptogenic [2]. There is a possibility that several of those patients had a recent colonoscopy of which we are not aware because of a lack of information. We recommend further research in the causality between (*Klebsiella pneumoniae*) PLA and colonoscopy. Furthermore, we should expect increasing numbers of complications, including PLA, due to the increase of population based screening programs.

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