ARCHIVES OF HELLENIC MEDICINE: ISSN 11-05-3992

CASE REPORT
ΕΝΔΙΑΦΕΡΟΥΣΑ ΠΕΡΙΠΤΩΣΗ

Amebic liver abscess in a patient with polycystic liver disease
A rare case report

We present a case of amebic liver abscess in a patient with polycystic liver disease (PCLD). A 36-year-old woman was admitted to the hospital due to right upper quadrant pain for 8 months before the admission. She also had episodic diarrhea. At previous admission, she was diagnosed having liver abscess. In the present admission, the diagnosis of amebic liver abscess was made based on the characteristics of abscess, sterile abscess culture, and the presence of cysts and trophozoites of protozoa in the stools. The diagnosis of PCLD was established according to the Gigot and Schnelldorfer criteria. In conclusion, the diagnosis of amebic liver abscess in patient with PCLD requires a holistic investigation and comprehensive follow-up.

ARCHIVES OF HELLENIC MEDICINE 2022, 39(1):114–116
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2022, 39(1):114–116

J.K. Fajar,[1]
S. Mustika[2]

[1]Brawijaya Internal Medicine Research Center, Department of Internal Medicine, Faculty of Medicine, Universitas Brawijaya, Malang
[2]Division of Gastro-entero-hepatology, Department of Internal Medicine, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia

Αμοιβαδικό απόστημα ήπατος σε ασθενή με πολυκυστικό ήπαρ: Περιγραφή περίπτωσης

Περίληψη στο τέλος του άρθρου

Key words

Amebic liver abscess
Diagnosis
Polycystic liver disease
Rare case

Submitted 13.8.2021
Accepted 23.8.2021

Liver abscess remains an important issue, and if incompletely treated, it has high life-threatening potential.[1] The global incidence of this disease is approximately 2.3 cases per 100,000 population, annually,[2] and the mortality rate ranges from 38.5% to 62.5% in patients with alcoholic cirrhosis and non-alcoholic cirrhosis, respectively.[3] The management of the diagnosis and treatment of this disease has been well described,[4] but the implementation of the diagnostic approach in the real-world setting causes some problems, especially when this disease is accompanied by several other conditions, such as liver cirrhosis, intra-abdominal mass, hepatic vein thrombosis, and polycystic liver disease (PCLD).[4] Of these, PLCD is the factor most often contributing to impediment of the diagnosis of liver abscess.

PCLD is a clinical condition with similar radiological characteristics to liver abscess.[5] The similar features of the cystic lesions in patients with liver abscess and PCLD causes difficulties for physician in determining the appropriate diagnosis.[6] These inconclusive clinical features may lead physicians to perform further investigations, and contribute to delay in diagnosis. In our paper, we present the case of liver abscess in a patient with PCLD. Our case might be considered an initial learning point for managing the diagnosis of liver abscess in patients with PCLD.

CASE PRESENTATION

A 36-year-old female was admitted to the hospital with fluctuating right upper quadrant pain for 8 months. The characteristics of pain were dull pain, without radiation. She also reported nausea and vomiting for 6 days before admission and episodic diarrhea for 6 months and loss of weight for three months before admission. In a previous admission, she was diagnosed having liver abscess and the abscess was aspirated.

On physical examination, we found that patient had hepatomegaly. Among the laboratory findings, raised levels of white blood count (WBC) were observed. Stool analysis showed trophozoites and cysts of protozoa. Abdominal ultrasound (US) showed multiple anechoic cystic lesions, septate cysts and bulls eye nodules. The cyst fluid was evacuated, and culture for microorganisms showed that the fluid was sterile. On fluid analysis, we found that the erythrocyte level was 51,000 cells/μL, and the leukocyte count was 150 cells/μL, with polymorphonuclear leucocytes (PMN) 73%, and monocytes (MN) 27%.

At initial admission, the patient was treated with antibiotics (a combination of metronidazole and ciprofloxacin), and evacuation was performed of 600 mL of fluid. Two weeks after discharged, she was readmitted with similar right upper quadrant abdominal pain. We performed monitoring abdominal US, and we found the reduced number of cystic lesions, with enlargement of a cystic mass. Abdominal computed tomography (CT) showed multiple cysts in the liver and kidneys (fig. 1).

DISCUSSION

The diagnosis of amebic liver abscess and PCLD is challenging, and requires holistic investigation. In our case, the patient had right upper quadrant abdominal pain with episodic diarrhea, and the radiological findings revealed an anechoic cystic lesion, suggesting liver abscess. In the diagnosis of liver abscess, the gold standard is imaging, using either abdominal US, CT, or magnetic resonance imaging (MRI). The radiological features are a hypo-echoic mass or a low-density mass with a peripheral enhancing rim.[7,8] To differentiate whether the abscess was pyogenic or amebic, the additional evaluation revealed the trophozoite and cysts of protozoa on stool microscopy, and no bacterial growth in the abscess culture, suggesting that the abscess was amebic. While stool microscopy for the diagnosis of amebic liver abscess was proven to be of low sensitivity,[9] the additional data from abscess culture and the macroscopic characteristics of abscess suggested that the diagnosis of amebic liver abscess was more probable than pyogenic liver abscess.[8] On the other hand, the radiological findings of multiple septate cysts and bullseye nodules in the liver, and simple cysts in the kidney suggested PCLD, following the criteria of the Gigot and Schnelldorfer classification.[10] The characteristic cystic lesions in PCLD are septate and or bullseye nodules, as in this case.[11]

The presence of amebic liver abscess in PCLD is rarely reported. The more common reports of liver abscess in PCLD are of pyogenic liver abscess. We found six case reports of liver abscess in PCLD, of which four cases were pyogenic liver abscess,[12–15] and two were amebic liver abscess.[16,17] Amebic liver abscess is the most common extraintestinal manifestation of amebiasis.[18] In clinical practice, the combination of the clinical manifestations and the radiological features usually provides adequate evidence to distinguish between simple cysts and other cystic lesions, such as liver abscess. In our case, due to the presence of PCLD and the non-typical clinical features, the initial diagnosis was inconclusive, and the diagnostic dilemma led to a significant delay in diagnosis of the amebic liver abscess, which was finally established based on the abdominal CT, combined with the additional clinical features and investigation.

In this paper, we reported the case of amebic liver abscess in a patient with PCLD. To the best of our knowledge, this is the first case in Indonesia and the third case worldwide reporting the case of amebic liver disease in PCLD. The diagnosis of amebic liver disease in patients with PCLD could be delayed because of the overlap in imaging appearance between cysts and the cystic lesion (abscess). In the future, we would perform a holistic investigation for assisting the diagnosis of amebic liver abscess in patients with PCLD.

This case had several limitations. Firstly, information related to the previous episode of illness and medication was not available because the patient could not remember, and therefore assessment of previous treatment and the treatment response was not possible. Second, the assessment of previous medical records was not possible, because the patient visited different health facility. Third, additional laboratory examination from the genetic perspective, which may help to distinguish between the type of cystic in liver was not available. Fourth, the patient refused further follow-up, because she felt that her clinical condition had improved.

In conclusion, the diagnosis of amebic liver abscess in patient with PCLD should involve a comprehensive investigation. In our case, monitoring of the cystic lesion size after aspiration should be performed to evaluate the concomitant diagnosis of PCLD.

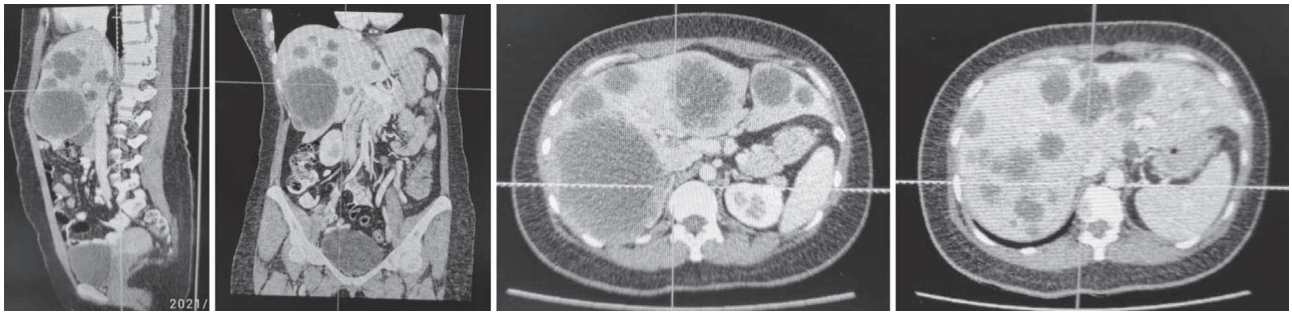

Figure 1. Amebic liver abscess in a patient with polycystic liver disease: Abdominal computed tomography (CT) shows multiple cystic lesions.

ΠΕΡΙΛΗΨΗ

Αμοιβαδικό απόστημα ήπατος σε ασθενή με πολυκυστικό ήπαρ: Περιγραφή περίπτωσης

J.K. FAJAR,[1] S. MUSTIKA[2]

[1]Brawijaya Internal Medicine Research Center, Department of Internal Medicine, Faculty of Medicine, Universitas Brawijaya, Malang, [2]Division of Gastro-entero-hepatology, Department of Internal Medicine, Faculty of Medicine, Universitas Brawijaya, Malang, Ινδονησία

Αρχεία Ελληνικής Ιατρικής 2022, 39(1):114–116

Παρουσιάζεται μια περίπτωση αμοιβαδικού αποστήματος ήπατος σε ασθενή με πολυκυστική νόσο του ήπατος. Πρόκειται για μια γυναίκα 36 ετών που εισήλθε στο νοσοκομείο λόγω άλγους στο δεξιό υποχόνδριο από 8μήνου. Επίσης, είχε εκδηλώσει επεισόδια διάρροιας. Προηγουμένως είχε διαγνωστεί ηπατικό απόστημα. Στην παρούσα εισαγωγή η διάγνωση του αμοιβαδικού αποστήματος τέθηκε από τα χαρακτηριστικά του αποστήματος, τις αρνητικές καλλιέργειες και την παρουσία κύστεων και τροφοζωιτών του πρωτόζωου στα κόπρανα. Η διάγνωση της πολυκυστικής νόσου του ήπατος τέθηκε σύμφωνα με τα κριτήρια των Gigot και Schnelldorfer. Η διάγνωση του αμοιβαδικού αποστήματος του ήπατος σε ασθενή με πολυκυστική νόσο του ήπατος απαιτεί διεξοδική διερεύνηση και λεπτομερή παρακολούθηση.

Λέξεις ευρετηρίου: Αμοιβαδικό απόστημα ήπατος, Διάγνωση, Πολυκυστική νόσος ήπατος

References

1. RAHIMIAN J, WILSON T, ORAM V, HOLZMAN RS. Pyogenic liver abscess: Recent trends in etiology and mortality. *Clin Infect Dis* 2004, 39:1654–1659
2. ABBAS MT, KHAN FY, MUHSIN SA, AL-DEHWE B, ABUKAMAR M, EL-ZOUKI AN. Epidemiology, clinical features and outcome of liver abscess: A single Reference Center Experience in Qatar. *Oman Med J* 2014, 29:260–263
3. MØLLE I, THULSTRUP AM, VILSTRUP H, SØRENSEN HT. Increased risk and case fatality rate of pyogenic liver abscess in patients with liver cirrhosis: A nationwide study in Denmark. *Gut* 2001, 48:260–263
4. SAYEK I, ONAT D. Pyogenic and amebic liver abscess. In: Holzheimer RG, Mannick JA (eds) *Surgical treatment: Evidence-based and problem-oriented.* Zuckschwerdt Verlag, Munich, 2001
5. BORHANI AA, WIANT A, HELLER MT. Cystic hepatic lesions: A review and an algorithmic approach. *AJR Am J Roentgenol* 2014, 203:1192–1204
6. REID-LOMBARDO KM, KHAN S, SCLABAS G. Hepatic cysts and liver abscess. *Surg Clin North Am* 2010, 90:679–697
7. WONG WK, FOO PC, OLIVOS-GARCIA A, NOORDIN R, MOHAMED Z, OTHMAN N ET AL. Parallel ELISAs using crude soluble antigen and excretory-secretory antigen for improved serodiagnosis of amoebic liver abscess. *Acta Trop* 2017, 172:208–212
8. KHIM G, EM S, MO S, TOWNELL N. Liver abscess: Diagnostic and management issues found in the low resource setting. *Br Med Bull* 2019, 132:45–52
9. TANYUKSEL M, PETRI WA Jr. Laboratory diagnosis of amebiasis. *Clin Microbiol Rev* 2003, 16:713–729
10. ZHANG ZY, WANG ZM, HUANG Y. Polycystic liver disease: Classification, diagnosis, treatment process, and clinical management. *World J Hepatol* 2020, 12:72–83
11. MAVILIA MG, PAKALA T, MOLINA M, WU GY. Differentiating cystic liver lesions: A review of imaging modalities, diagnosis and management. *J Clin Transl Hepatol* 2018, 6:208–216
12. ASSANTACHAI P, LUENGROJANAKUL P, PHIMOLSARNTI R, CHAROENLARP K, RATANARAPEE S. Liver abscess in polycystic liver disease. *J Med Assoc Thai* 1995, 78:210–216
13. CIGARRÁN S, NECHES C, LAMAS JM, GARCÍA-TRIO G, ALONSO M, SAAVEDRA J. A case report of a pyogenic liver abscess caused by *Fusobacterium nucleatum* in a patient with autosomal dominant polycystic kidney disease undergoing hemodialysis. *Ther Apher Dial* 2008, 12:91–95
14. ISSA Z, CICCARELLI O, DEVRESSE A, KANAAN N, LAPIQUE EL, DE GREEF J ET AL. Sequential liver-kidney transplantation for recurrent liver cysts infection in a patient with autosomal dominant polycystic kidney disease: A case report. *Transplant Proc* 2021, 53:1322–1326
15. HIMENO A, SUZUKI H, SUZUKI Y, KAWAGUCHI H, ISOZAKI T. Multiple liver cyst infection caused by *Salmonella ajiobo* in autosomal dominant polycystic kidney disease. *J Infect Chemother* 2013, 19:530–533
16. CHOLONGITAS E. Amebic liver abscess in a patient with polycystic disease. *Ann Hepatol* 2008, 7:180–181
17. RANA KVS, TONAPE T, DOGRA BB, SRIDHARAN S. Amebic liver abscess and polycystic liver disease. *Medical Journal of Dr DY Patil University* 2013, 6:89–91
18. WELLS CD, ARGUEDAS M. Amebic liver abscess. *South Med J* 2004, 97:673–682

Corresponding author:

J.K. Fajar, Brawijaya Internal Medicine Research Center, Department of Internal Medicine, Faculty of Medicine, Universitas Brawijaya, Malang 65145, Indonesia
e-mail: gembyok@gmail.com