

Case Report

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An Emerging Therapy for Liver Abscess - Medicinal Plant Extracts Make It Quickly Eliminate Inflammation and Clear Lesions

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Abstract

A 48-year young female with a diagnosed case of liver abscesses presented to Qilu Hospital of Shandong University. After taking informed consent the patient received 48-day oral treatment with medicinal plants without any invasive techniques and the treatment was successful. We have confirmed an emerging treatment for liver abscesses.

Keywords: Pyogenic liver abscess; Medicinal plant extracts; Emerging therapy.

Introduction

A liver abscess is a pyogenic cavity in the liver parenchyma produced by bacterial invasion of liver tissue [1]. The occurrence of liver abscesses is worldwide, with substantial variability between nations. Pyogenic liver abscess occurred in 4.1 cases per 100,000 people in the United States [2]. According to a population retrospective research, the incidence of liver abscess in China was 8.9 cases per 100,000 persons, with pyogenic liver abscess accounting for the great majority of cases [3]. It is also much higher than in Canada, Denmark, and the United Kingdom [4-6]. Pyogenic liver abscess is a specific type of septic disease in which infection of the liver parenchyma can be fatal. However, conventional treatments tend to be lengthy and costly and have many adverse effects. Through a review of clinical cases, we confirmed an emerging therapy, which is an oral liquid prepared by extracting medicinal plant components for symptomatic and anti-infective treatment, that quickly heals liver abscesses, directly solves inflammation

problems, consolidates the root, and repairs the disease, and is it shortens the treatment process. It reduces both unpleasant reactions and negative effects.

Case report

A 48-year-old lady with a 10-day history of fever (40.1°C) and liver pain presented to a district hospital. Anti-infection therapy was given at the local hospital, but the results were disappointing. Then she was admitted to our hospital with a «liver abscess». She suffered from «tuberculosis» as a child and was already healed. She has no family history of genetic or infectious diseases.

A physical examination on admission revealed that the abdomen was modest pressure pain without other signs or symptoms. Her laboratory evaluation showed a white blood cell count of $4.9 \times 10^9/L$, a neutrophil count of $12.22 \times 10^9/L$, and procalcitonin of 0.230 ng/ml.

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Her liver function showed glutamate transaminase of 57 U/L, glutamate transaminase of 64 U/L, glutamate dehydrogenase of 11.6 U/L, γ -Glutamyl trans peptidase of 137 U/L, alkaline phosphatase of 170 U/L, albumin of 33.4 g/L. G test, GM test, and blood culture were negative.

Based on a preliminary diagnosis of pyogenic liver abscess, the patient was given the treatment for liver protection and anti-infection for the time being. When no obvious improvement occurred after 4-day antibiotic treatment, but the patient still had intermittent fever. Then, we gave symptomatic remedies to clear away the liver fire, disperse stagnated liver qi for relieving qi stagnation, and clear heat and detoxify medicinal plant oral solution.

The active ingredients were extracted from 12 g of Cortex LyciiRadici, 12 g of Paeoniae Radix Alba, 18 g of Herba Artemisia, 9 g of Poria, 9 g of Radix Rehmanniae Praeparatae, 20 g of Viburnum biflorum, 9 g of Fructus forsythia, 12 g of Lophatherum gracile Brongn, 15 g of RhizomaPhragmites, and 3 g of Radix Glycyrrhizae. After the treatment of 2 days, the patient had no further fever. A week later, the medicinal plant composition was changed to add 12 g of Moutan Cortex. The combination of liver protection and anti-infection medication was maintained. After half a month, the indices had returned to normal. After a month, the recipe was changed based on the condition, and 9 g of Fructus Schis andrae was added to create a blend of 12 medicinal plants. 48 days later, the abdominal ultrasonography showed that the lesions had completely disappeared (Figure 1).

Clinical application discussion

Pyogenic liver abscess is a common clinical inflammatory disease of the liver. The clinical signs and symptoms of pyogenic liver abscess are nonspecific and usually present with chills and hyperthermia, discomfort in the liver area, and enlargement of the liver. It is usually diagnosed by imaging, with ultrasonography and computed tomography confirming the diagnosis in more than 90% of cases [1,7]. In this clinical case, it was excluded other causes of liver abscess based on the patient's past medical history and biological findings. Pyogenic liver abscesses are usually treated with high-dose antibiotics, which have a long course, high cost, and a range of side effects. Moreover, the optimal application of antibiotics is based on drug sensitivity results, but blood cultures of some patients often fail to detect sensitive bacteria, so the empirical use of antibiotics is not targeted, and in some areas with limited resources, response persisted[8, 9]. Furthermore, some research centers advocate surgical drainage of liver abscesses larger than 5 cm, however, repeated drainage has been reported to worsen the infection, and severe cases can result in death due to sepsis and systemic failure.

According to certain research, there is a 26% chance of developing postoperative sepsis [10,11].

Based on the poor anti-infective effect of conventional antibiotics, our biggest advantage in this case of the liver abscess was to avoid the traditional surgical method of imaging-guided drainage and to treat the patient with medicinal plants to clear the liver and fire, regulate qi, and clear heat, and detoxify the liver. After 48 days of treatment, imaging showed that the patient's lesions had been completely absorbed and disappeared. There were no further symptoms such as fever or liver discomfort, which achieved a clinical cure and allowed the patient to avoid invasive surgery's pain and potential risks.

In clinical practice, the medicinal plant ingredients can effectively prevent or eliminate the formation of pus walls and at the same time promote the phagocytosis of white blood cells, resulting in the absorption and dissipation of inflammation and abscesses. Treatment of liver abscesses with the extracted botanical components can significantly improve the clinical symptoms of patients and reduce the total duration of treatment. This method plays a direct role in the treatment process of liver abscesses by resolving inflammation, fixing the root cause, and repairing the disease, with fewer adverse reactions and side effects during the treatment process.

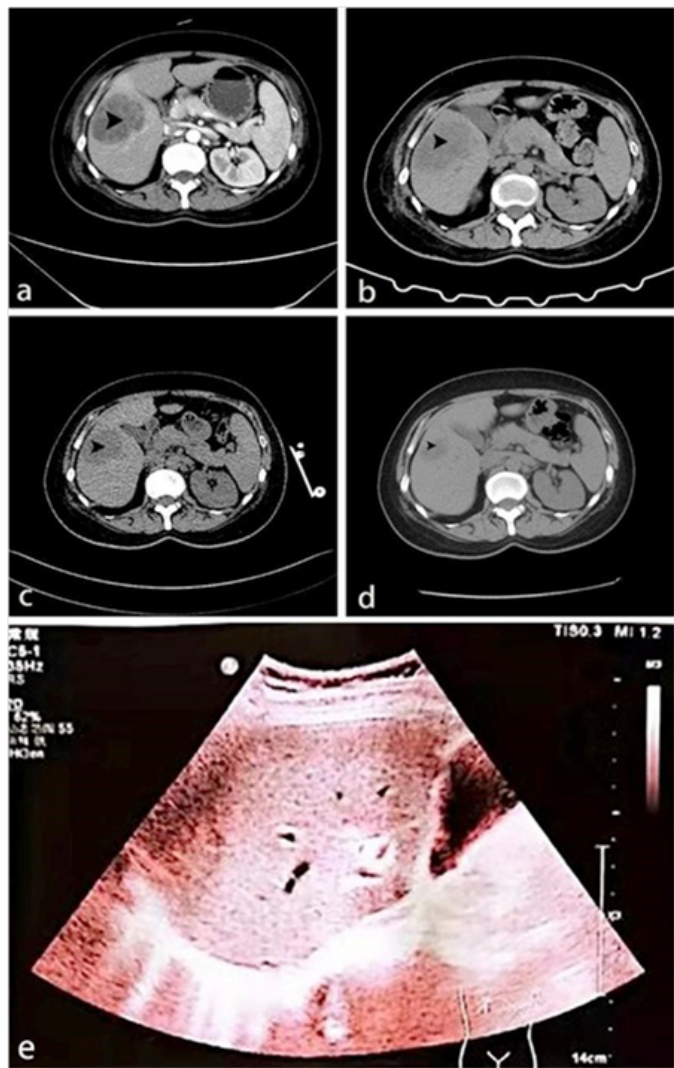


Figure 1: Image changes in the patients during therapy (a) Computed tomography showed a large polycystic hypodense occupying lesion in S2 and S5 of the liver (black arrowhead), the larger one was located in the left extrahepatic lobe with a cross-sectional size of about 9*10cm with a diagnosis of Liver Abscess. (b) The lesion was smaller than before, with a cross-sectional size of about 9.1 x 8.2 cm (black arrowhead). (c,d) During the treatment, the lesion was gradually reduced in extent compared to the one previously (black arrowhead). (e) The patient was reviewed at a local hospital for the cause of COVID-19 and the abdominal ultrasonography showed the lesions disappeared, with no significant abnormalities in the liver.

Conclusion

Medicinal plant extracts can be an emerging therapeutic approach for treating liver abscesses. They have great potential in combating liver abscesses and even liver disease safely and reliably and avoiding invasive manipulations. We can apply it as a novel therapeutic material in a larger target population for further exploration, and combine it with its molecular technology to make mechanisms of medicinal plant chemical components be continuously improved, thus providing a solid clinical basis for new drug development.

Declarations

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Conflict of interest: The authors declare no conflicts of interest.

Author contributions: Kai Wang and Zhaohui Wang contributed to the clinical study design and protocol development. Kai Wang performed the configuration of extracts. Zhaohui Wang and Jingwen Wang performed a clinical investigation of patients, collected, reviewed, analyzed, and interpreted the data, and wrote the draft manuscript. Ying Zhang, Huihui Liu, and Yuchen Fan analyzed and processed the imaging and followed up with the patient. All authors collected and analyzed data and contributed to the revision of the manuscript.

Ethics statement: Written informed consent was obtained from the patient for the publication of any potentially identifiable images or data included in this article.

References

1. Lardièrre-Deguelte S, Ragot E, Amroun K, Piardi T, Dokmak S, et al. Hepatic abscess: Diagnosis and management. *J Visc Surg.* 2015; 152: 231-243.
2. Meddings L, Myers RP, Hubbard J, Shaheen AA, Laupland KB, et al. A population-based study of pyogenic liver abscesses in the United States: incidence, mortality, and temporal trends. *Am J Gastroenterol.* 2010; 105: 117-24.
3. Tian LT, Yao K, Zhang XY, Zhang ZD, Liang Y-J, et al. Liver abscesses in adult patients with and without diabetes mellitus: an analysis of the clinical characteristics, features of the causative Pathogens, outcomes and predictors of fatality: are port based on a large population, retrospective study in China. *Clin Microbiol Infect.* 2012; 18: E314-30.
4. Jepsen P, Vilstrup H, Schønheyder HC, Sørensen HT, et al. A nationwide study of the incidence and 30-day mortality rate of pyogenic liver abscess in Denmark, 1977-2002. *Aliment Pharmacol Ther.* 2005; 21: 1185-1188.
5. Mohsen AH, Green ST, Read RC, McKendrick MW, et al. Liver abscess in adults: ten years experience in a UK centre. *Qjm.* 2002; 95: 797-802.
6. Hansen PS, Schønheyder HC. Pyogenic hepatic abscess. A 10-year population-based retrospective study. *Apmis.* 1998; 106: 396-402.
7. Pang TC, Fung T, Samra J, Hugh TJ, Smith RC, et al. Pyogenic liver abscess: an audit of 10 years' experience. *World J Gastroenterol.* 2011; 17: 1622-1630.
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. Lo JZ, Leow JJ, Ng PL, Lee HQ, Mohd Noor NA, et al. Predictors of therapy failure in a series of 741 adult pyogenic liver abscesses. *J Hepatobiliary Pancreat Sci.* 2015; 22: 156-165.
10. Chou FF, Sheen-Chen SM, Chen YS, et al., Single and multiple pyogenic liver abscesses: clinical course, etiology, and results of treatment. *World J Surg.* 1997; 21: 384-388.
11. Thomas J, Turner SR, Nelson RC, Paulson EK, et al. Post procedure sepsis in imaging-guided per cutaneous hepatic abscess drainage: how often does it occur? *AJR Am J Roentgenol.* 2006; 186: 1419-1422.