

The Use of Mucolytic Agent in Percutaneous Drainage of Liver Abscess: A Case-Series Analysis

Ramona Cadar¹, Ana-Maria Trofin^{1,2}, Mihai Zabara^{1,2}, Alexandru Nastase¹, Vasile Fotea^{3,4},
Corina Lupascu-Ursulescu^{3,4}, Cristian Livadaru^{3,4}, Cristian Lupascu^{1,2}

¹Department of General Surgery and Liver Transplantation, St. Spiridon University Hospital Iasi, Romania

²Surgery Department, Faculty of Medicine, Grigore T. Popa University of Medicine and Pharmacy Iasi, Romania

³Department of Radiology and Interventional Radiology, St. Spiridon University Hospital Iasi, Romania

⁴Radiology Department, Faculty of General Medicine, Grigore T. Popa University of Medicine and Pharmacy Iasi, Romania

Abstract

Background: Liver abscess is a scarce but potentially fatal suppurative process. There is a general tendency for minimally invasive treatment, such as broad-spectrum antibiotherapy and percutaneous drainage. Multiloculated, multiple or incompletely liquefied abscesses often limit the efficacy of percutaneous drainage. This study aims to assess the effectiveness of percutaneous drainage and intracavitary instillation of a mucolytic agent for liver abscesses.

Material and Method: From our department database, we have identified patients with liver abscess admitted during the period 2015–2020, treated by ultrasound-guided percutaneous drainage and intracavitary instillation of mucolytic agent. Data regarding imaging appearance, drainage technique, inflammatory markers and clinical course were assessed.

Results: Twenty-one patients with multiloculated liver abscesses, sized 8 to 17 cm, were percutaneously drained, with local anaesthesia, under ultrasound guidance. The bacteriological exam of the aspirate showed bacterial infection in 19 cases, mostly *Klebsiella pneumoniae*, and 2 fungal infections. Acetylcysteine in dilution 1: 1 with saline was instilled daily on the 12F or 14 F drainage catheter. Clinical and radiological resolution was achieved within 14 to 29 days. Two cases required supplementary drainage of a non-communicating residual cavity. There were no complications, periprocedural deaths or relapse at 3 months follow-up.

Conclusions: Percutaneous drainage is effective even in the management of multiloculated liver abscesses, facilitated by the use of intracavitary mucolytic agent.

Key words: abscess, liver, drainage, mucolytic agent