

## Original Article

FREQUENCY AND RISK FACTORS OF SEVERE LIVER DYSFUNCTION  
IN ISONIAZID MONO-THERAPY  
FOR LATENT TUBERCULOSIS INFECTION

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**Abstract** [Purpose] To investigate the frequency and risk factors of severe liver dysfunction in patients receiving isoniazid (INH) mono-therapy for latent tuberculosis infection (LTBI).

[Objectives and Methods] A retrospective study of patients receiving INH mono-therapy for LTBI in the single medical institute in Japan.

[Results] A total of 845 subjects, aged between 20 and 70 years old, were enrolled in this study. Grade 3 liver dysfunction (the highest value between AST and ALT [=M],  $500 \text{ IU/L} \leq$  and less than  $1000 \text{ IU/L}$ ) was found in 1.9% (16/845) of cases. Grade 4 liver dysfunction ( $M \geq 1000 \text{ IU/L}$ ) was found in 1.4% (12/845) of cases. The frequency of Grade 3–4 liver dysfunction increased with age, in patients above 40 years of age. The frequency of Grade 3 and Grade 4 liver dysfunction was 2.0% (4/202) and 1.0% (2/202), respectively, in patients aged between 40 and 49 years, and 2.4% (3/123) and 3.3% (4/123), respectively, in patients aged between 60 and 69 years. The following factors were associated with an increased risk of severe liver dysfunction: hepatobiliary

abnormalities, consumption of alcohol 5 times or more per week before commencing INH, and abnormal high values of ALP before commencing INH.

[Conclusion] Severe liver dysfunction is not rare in patients above 40 years of age, and the indication for LTBI treatment in these patients should be evaluated carefully, balancing the risk of severe liver dysfunction and the benefits of preventive effects.

**Key words:** Latent tuberculosis infection, Isoniazid, Side effect, Liver dysfunction, Risk factor

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## Case Report

## A CASE OF PULMONARY TUBERCULOSIS WITH PANCREATIC LESION

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**Abstract** A 52-year-old woman was referred to our hospital presenting with epigastric pain and weight loss. A contrast-enhanced abdominal computed tomography (CT) scan showed a low-density mass in the body of the pancreas, indicative of a malignancy. Endoscopic ultrasound-guided fine needle aspiration of the pancreatic mass was performed three times and showed no specific findings. A distal pancreatectomy was performed, and a pathological examination revealed epithelioid cell granulomas and necrosis. Ziehl-Neelsen staining did not reveal acid-fast bacilli in the pancreatic mass. A diagnosis of tuberculosis or sarcoidosis of the pancreas was considered; however, the patient chose to undergo a follow-up examination without therapeutic intervention because the pancreatic mass had been removed completely and she had recovered well.

Four months after the operation, the patient was readmitted to our hospital for insulin therapy for pancreatic diabetes. She presented with a fever and a productive cough, and a chest CT scan showed multiple nodules in both upper lobes. A bronchoscopy was performed and bronchoalveolar lavage fluid cultures for *Mycobacterium tuberculosis* were positive. The patient received antitubercular quadri-therapy and showed symptomatic and radiologic improvement.

At the initial examination, we had been unable to establish the correct diagnosis; however, the detection of pulmonary lesions led to the time-delayed diagnosis of pancreatic tuberculosis. Owing to its rarity, it is difficult to diagnose pancreatic tuberculosis using clinical symptoms and radiological imaging modalities; thus, pathologic and bacteriologic confirmation is essential. To avoid performing an unnecessary laparotomy in patients with pancreatic tuberculosis, increased vigilance and an accurate diagnostic approach are required.

**Key words:** Extrapulmonary tuberculosis, Pancreatic tuberculosis, Pancreatic cancer

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