

中文題目：視力模糊之發燒男性

英文題目：Blurry vision in man with fever

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## Introduction

Endophthalmitis is an ophthalmic emergency, which is an intraocular cavity infection that could lead to irreversible visual loss.

Most cases of endophthalmitis are exogenous, resulting from a complication of eye surgery, as an extension of corneal infection, or penetrating ocular trauma. The remaining cases are endogenous. Endogenous bacterial endophthalmitis results from bacterial seeding of the eye during bacteremia.

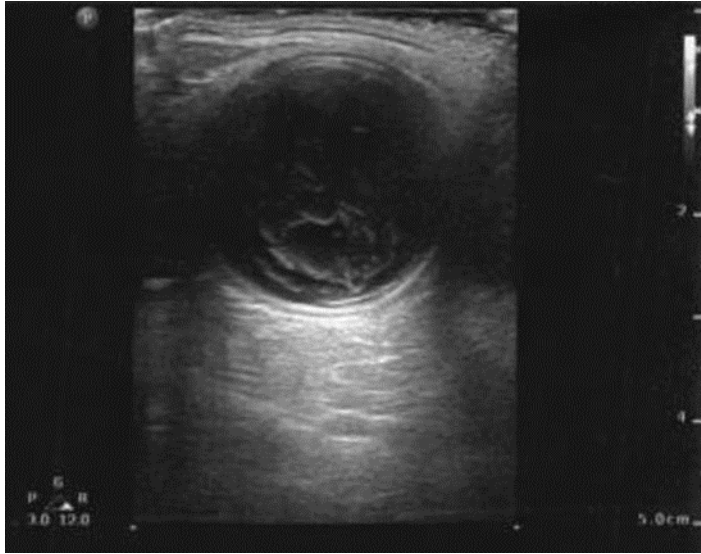
One of an important pathogen of endophthalmitis is *Klebsiella pneumoniae* bacteremia associated liver abscesses, especially in Taiwan, Singapore, Korea, and other East Asian nations [1].

We herein present a case of blurry vision and fever man who diagnosis by Point-of-care ultrasound, an easy, rapid and convenience way that can performed by internal medicine physician.

## Case Report

A 46-year-old male without underlying disease came to our emergency department with the complaint of fever and left eye blurry vision for 2 days. General malaise and abdominal fullness were also reported. He denied trauma history of left eye. No specific finding found by physical examination. Laboratory findings showed leukocytosis of  $15.7 \times 10^3/\mu\text{L}$ , elevated C reactive protein(167.2 mg/L), mild elevated liver enzyme (Aspartate Aminotransferase: 43 IU/L; Alanine Aminotransferase: 85 IU/L) and hyperbilirubinemia (Total bilirubin: 2.11mg/dL and direct bilirubin 0.99mg/dL). Point-of-care ultrasound of the left eye was performed using a high-frequency linear transducer (7.5 MHz), which is shown in figure 1.

The patient was admitted for systemic intravenous antibiotics treatment. Percutaneous transhepatic abscess drainage was performed during hospitalization. Ophthalmologist was contacted for confirmed the diagnosis and for intravitreal antibiotics treatment. Blood culture reported *Klebsiella pneumoniae*. The condition got improved gradually and the patient was discharged on day 13 and follow up in outpatient clinic.



**Figure 1** Ultrasound image of the left eye demonstrating hyperechoic opacity lesion in vitreous

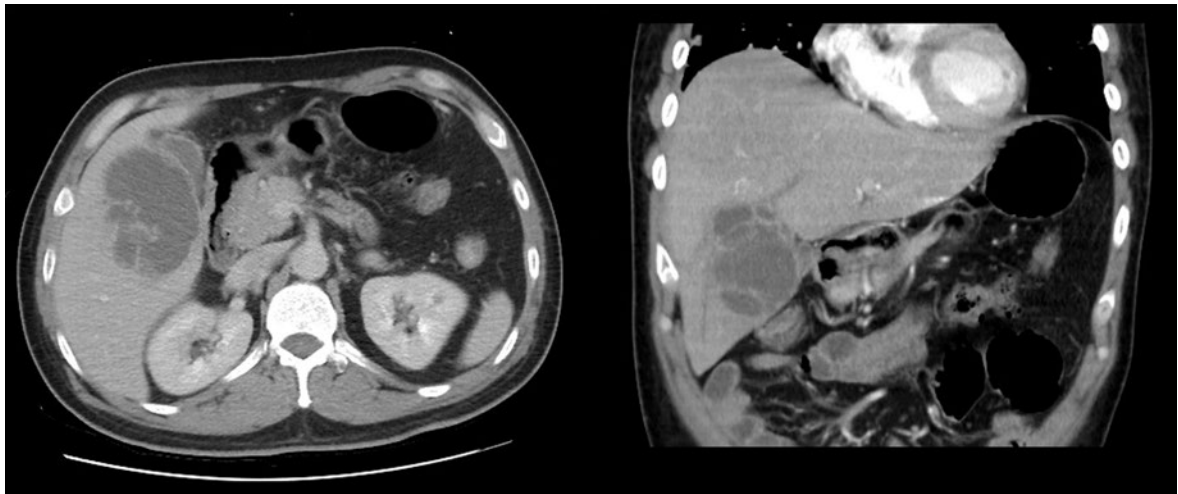
### **Discussion**

Endophthalmitis is an ophthalmic emergency, which is an intraocular cavity infection that could lead to irreversible visual loss. The ocular ultrasound can perform to make differential diagnosis of ocular trauma, sudden vision changes, concern for increased intracranial pressure or foreign body with high-frequency linear probe. When examination, we will ask patient to look straight ahead and stabilize hand on patient's bony structure including nose, forehead, or malar bone of cheek to avoid pressure on globe. In addition to image optimization, reduces power to 50% to minimize the risk of retinal damage as ocular setting. Adequate gel use to obtained image without actual contact with the skin that can avoid excessive pressure challenging.

The typical ultrasound appearance of endophthalmitis is mobile hyperechoic vitreous opacities with convection movement, endovitreous vacuoles, choroidal thickening, hyaloid thickening, and exudative retinal detachment and posterior vitreous detachment [2]. Retinal detachment (RD) and posterior vitreous detachment (PVD) will appear as hyperechoic white membranes, which could be differentiate by the optic disc attachment. RD will usually remain optic disc attachment (V-shaped) and usually not cross the midline, but PVD will cross the midline. Vitreous hemorrhage (VH) will have a wave-like appearance after eye movement.

In addition to ocular ultrasound, abdominal ultrasound was also performed for elevated alanine aminotransferase and bilirubin and increasing the risk of liver abscess and endogenous endophthalmitis [3], which showed liver abscess formation. Contrast-enhanced abdominal computed tomography scan demonstrated an abscess in

the segment 5 of the liver (Figure 2). Then, the diagnosis of endogenous endophthalmitis secondary to pyogenic liver abscess was made.



**Figure 2** CT showed liver abscess in segment 5

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[2] Kilker BA, Holst JM, Hoffmann B. Bedside ocular ultrasound in the emergency department. *Eur J Emerg Med*. 2014;21(4):246-53

[3] Abdul-Hamid A, Bailey SJ. *Klebsiella pneumoniae* liver abscess and endophthalmitis. *BMJ Case Rep*. 2013