

# First Case of Liver Abscess with Endogenous Endophthalmitis due to Non-K1/K2 Serotype Hypermucoviscous *Klebsiella pneumoniae* Clone ST268

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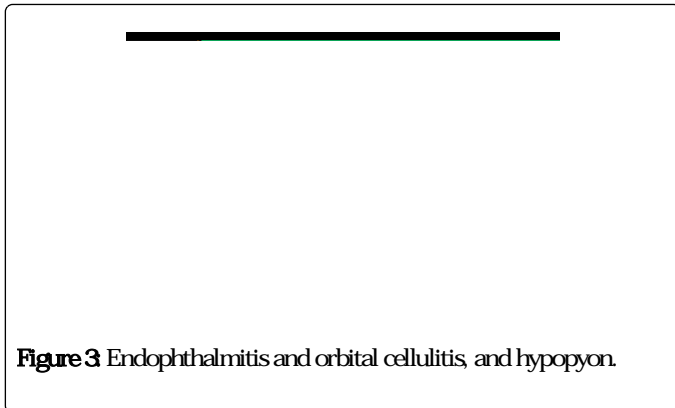
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## Abstract

The hypermucoviscous (hv) *Klebsiella pneumoniae* (KP) can cause invasive liver abscess syndrome (ILAS) including endophthalmitis dominantly in eastern Asia. We report a 80-years old woman who diagnosed with invasive liver abscess syndrome due to *K. pneumoniae* (KP) non-K1/K2 hvKP multi-locus sequence type ST268 by DNA amplification methods isolated from blood culture. Soon she developed endogenous endophthalmitis and immediately right vitrectomy was performed. Although intravenous 2g of ceftriaxone (CTRX) was administered, total enucleation of right eyeball had performed due to orbital cellulitis and necrosis of eye ball finally. To find complication (i.e. endophthalmitis) with caution and to select antimicrobial agents with sufficient penetration to CNS (i.e. ceftriaxone) is needed in a patient with severe hvKP infection. Usually ILAS is caused by K1/K2 hvKP. However, to our knowledge, this is a first report of ILAS with endophthalmitis and orbital cellulitis due to non-K1/K2 hvKP ST268.

susceptibility performed with the broth microdilution method



Blood samples were drawn under sterile conditions and processed using BacT/Alert 3D (bioMérieux, Marcy l'Etoile, FRANCE). The strain was identified as KP by Vitek2 (bioMérieux). The KP was positive for string test (>5 mm), which was confirmed to hypermucoviscous (hv) type phenotypically. Antimicrobial

diagnosis of endophthalmitis and orbital cellulitis to reassess its therapeutic management, and consult to ophthalmologist immediately.

The carriage rate of all KP in stool from healthy human were varied (10-19% in Europe [1], 75% in China) and 23% of healthy human carried serotype K1/K2 KP in Taiwan [16]. Thus geographical distribution may be available in carriage rate. Similar to typhoid fever, human to human transmission of serotype K1 hvKP in the family (a male infected patient to his son, daughter, and wife) as confirmed by PFGE in Japan [17]. In Asia, complications (i.e. liver abscess, meningitis, endophthalmitis) caused by KP bacteremia, whether serotype is K1/K2 or not, should be identified with caution during the clinical course. Antimicrobial agents with sufficient penetration to CSF or eye, such as 3<sup>rd</sup> generation cephalosporin (i.e. ceftaxime), should be used immediately if hvKP is suspected as causable pathogen. Surgical intervention such as drainage is also needed.

At this time, many cases of severe infection caused by hvKP have also been reported from Europe and United States of America. To reflect globalization, the number of severe hvKP infections may be increasing all over the world.