

String test

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DESCRIPTION

An 82-year-old Japanese woman with duodenum papilla cancer was admitted with a 3-day history of fever, chills and nausea. A contrast-enhanced CT scan showed ring-enhanced and multiloculated low-density area in her liver and suspected pyogenic liver abscess (figure 1).

Drainage of the liver abscess was performed and Gram's staining of the abscess revealed Gram-negative bacilli with capsule formation. Blood cultures and abscess cultures grew *Klebsiella pneumoniae*. Growing colonies from the liver abscess on blood agar were shiny, cream-coloured, and the string test was positive (>5 mm string; figure 2). The patient was treated with cefepime for 2 weeks and switched to oral amoxicillin/clavulanate for an additional 4 weeks. No evidence of relapse of the infection was noted at the 6-month follow-up.

Community-acquired *K pneumoniae* liver abscess sometimes causes metastatic region such as ocular or central nervous system, and hypermucoviscous phenotype of *K pneumoniae* is associated with hypervirulence. The presence of capsular serotype K1, and to a lesser extent K2, appears to play a



Figure 2 Demonstrating the string test.

role in the virulence of this organism,^{1 2} and it is easy and very useful to identify the hypervirulence type of *K pneumoniae* by a string test in the community hospital's laboratory.¹

Learning points

- ▶ Hypermucoviscous phenotype of *Klebsiella pneumoniae* is associated with hypervirulence.
- ▶ It is easily identified by a string test in the community hospital's laboratory without Caspar serotyping system.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

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- 2 Fang CT, Lai SY, Yi WC, *et al*. *Klebsiella pneumoniae* central nervous system complications from pyogenic liver abscess. *Clin Infect Dis* 2007;45:284–93.



Figure 1 Contrast-enhanced CT scan showing findings suggestive of liver abscess.

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