

Clinical & Scientific letters

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Delay in the presentation of patients to hospital is the main factor for failure to adhere to the Royal College of Physicians' guidelines in the management of suspected subarachnoid haemorrhage

In June 2004, the Royal College of Physicians (RCP) produced updated guidelines for the management of suspected subarachnoid haemorrhage (SAH), advocating timely investigation to maximise SAH detection.¹ We were interested in the adherence to these guidelines in a district general hospital (DGH) setting and sought the main causes for failure in meeting guideline recommendations.

Method

We performed retrospective case note analysis in a UK DGH. Potential cases for the currently reported study were selected using the following discharge diagnoses (as classified under ICD-10 (*International classification of diseases, 10th revision*)):

- atraumatic intracranial haemorrhage (subarachnoid haemorrhage, intracerebral haemorrhage, subdural haemorrhage, extradural haemorrhage)
- any variant of meningitis or encephalitis
- any variant of migraine or headache
- venous sinus thromboses.

The case notes for the selected patients were examined by two investigators for documented evidence of atraumatic SAH as a

differential diagnosis. Where SAH was suspected, data was then collected regarding age, time of symptom onset, time of patient presentation to hospital and the time and type of investigations performed.

Results

Out of 161 sets of case notes, a diagnosis of suspected SAH was made in 29 patients whose management should have adhered to the RCP guideline recommendations. A summary of the results is given in Table 1. Out of these 29 cases, 18 failed to meet RCP guidelines for the investigation of suspected SAH. In 56% (10/18), delay in hospital presentation by the patient was the primary cause of guideline failure. Inappropriately early or absent examination of cerebrospinal fluid by lumbar puncture (LP) accounted for a further 17% (3/18).

Discussion

Computerised tomography (CT) has up to 97.5% sensitivity for SAH in the first 24 hours² but falls thereafter. LP is 100% sensitive for up to 14 days post-ictus.³ However, this and previous studies^{4,5} consistently show that a LP is not performed often enough in cases of suspected SAH where CT-scanning shows no abnormality. One example of the necessity of performing a LP

is a previous case series of CT-negative suspected SAH, where subsequent LP gave a positive diagnosis in up to 21%.⁴

In our study, after considering both CT and LP, the overall adherence to RCP guidelines was poor (<40%) for all suspected cases of SAH. We found that adherence to the RCP guidelines for the management of suspected SAH is hampered mainly by the delayed presentation of patients to hospital. This is then compounded by LP not being employed as often as guidelines would recommend, increasing the chances of a missed SAH.

Educating both primary and secondary care practitioners of the value of the RCP guidelines in managing suspected SAH, particularly in the case of LP, will help to improve our management of these patients.

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References

- 1 Royal College of Physicians. *National clinical guidelines for stroke*, 2nd edition. Prepared by the Intercollegiate Stroke Working party. London: RCP, 2004.

Table 1. A summary of the case note analysis.

Group	Suspected SAH	SAH	Other
Number of cases	29	12	17
Mean age (SD)	49.1 (14.8)	56.9 (11.8)	43.5 (14.4)
Median duration of symptoms before hospital presentation (range)/h	7.6 (0.65–168)	3.0 (0.65–48)	72 (0.75–168)
% patients presenting >12h (proportion)	44.8 (13/29)	25.0 (3/12)	58.8 (10/17)
% patients presenting >24h (proportion)	34.5 (10/29)	8.3 (1/12)	52.9 (9/17)
CT<12h/% (proportion)	48.3 (14/29)	66.7 (8/12)	35.3 (6/17)
CT<24h and >12h/% (proportion)	3.4 (1/29)	8.3 (1/12)	None (0/17)
CT>24h or not performed/% (proportion)	48.3 (14/29)	25.0 (3/12)	64.7 (11/17)
LP indicated and performed appropriately/% (proportion)	63.6 (7/11)	None (0/0)	63.6 (7/11)
LP indicated but not performed or performed <12h/% (proportion)	36.4 (4/11)	None (0/0)	36.4 (4/11)†
Overall RCP guideline adherence	37.9 (11/29)	66.7 (8/12)	17.6 (3/17)

† two LPs performed too early, two LPs not performed. CT = computerised tomography; LP = lumbar puncture; RCP = Royal College of Physicians; SAH = subarachnoid haemorrhage.

- 2 Morgenstern LB, Luna-Gonzales H, Huber JC *et al*. Worst headache and subarachnoid haemorrhage: prospective, modern computed tomography and spinal fluid analysis. *Ann Emerg Med* 1998;32:297–304.
- 3 Vermeulen M, van Gijn J. The diagnosis of subarachnoid haemorrhage. *J Neurol Neurosurg Psychiatry* 1990;53:365–72.
- 4 Schofield MLA, Lorenz E, Hodgson TJ, Yates S, Griffiths PD. How well do we investigate patients with suspected subarachnoid haemorrhage? The continuing need for cerebrospinal fluid investigations. *Postgrad Med J* 2004;80:27–30.
- 5 O'Neill J, McLaggan S, Gibson R. Acute headache and subarachnoid haemorrhage: a retrospective review of CT and lumbar puncture findings. *Scott Med J* 2005;50:151–3.

HIV testing for adult patients with *Streptococcus pneumoniae* bacteraemia

An estimated 27% of adults living in the UK with HIV are undiagnosed.¹ Royal College of Physicians guidelines published in 2005 highlight the need for vigilance in recognition of clinical presentations which may herald underlying HIV infection, and include a list of such 'alert conditions'.²

Invasive infection with *Streptococcus pneumoniae* is one of the commonest causes of pneumonia and meningitis worldwide and creates a significant disease burden in the UK.³ It is also well documented in association with HIV infection,^{4,5} but does not feature in recent guidelines.²

We have explored the relationship between *Streptococcus pneumoniae* bacter-

aemia and HIV infection in a small UK cohort to investigate the extent to which invasive pneumococcal disease may be useful as a marker of HIV infection. We retrospectively evaluated all *Streptococcus pneumoniae* blood culture isolates identified over a 30-month period from August 2002 in a UK district general hospital. Hospital electronic records were used to identify those who had been tested for HIV infection.

Streptococcus pneumoniae was grown in 77 blood cultures from 66 patients, (age range one month to 98 years (Fig 1)). Out of the 66 patients, seven were HIV positive (10.6%), compared to an estimated baseline population HIV seroprevalence of 0.16%.¹ Of the patients with HIV infection, four were undiagnosed prior to their bacteraemic illness. The remaining 59 patients had no record of an HIV test. Two HIV positive patients had recurrent episodes of pneumococcal bacteraemia (at 11 and 13 months following index presentation). Given the higher prevalence of HIV in young adults, we analysed a sub-group aged 20–45. Of 21 patients in this group, five were HIV positive (24%).

Incidence of severe pneumococcal disease is highest in patients at extremes of age,³ but this epidemiology may change in populations with high HIV seroprevalence, in whom disease is also more likely to be recurrent. A proportion of the disease burden in young and middle-aged adults in our cohort is attributable to HIV co-infection (Fig 1). Our calculated HIV prevalence of 24% in patients aged 20–45 with pneumococcal bacteraemia may be an

under-estimate, as none of the remaining patients was tested for HIV.

We suggest that blood stream infection with *Streptococcus pneumoniae* in young adult patients without other clear risk factors for invasive pneumococcal disease should prompt clinicians to consider offering HIV counselling and testing in order to promote early diagnosis and timely treatment of HIV infection.

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References

- 1 Health Protection Agency. The unlinked anonymous prevalence monitoring programme. www.hpa.org.uk/infections/topics_az/hiv_and_sti/hiv/epidemiology
- 2 Clinical Effectiveness and Evaluation Unit. *HIV testing for patients attending general medical services: national guidelines*. London: RCP, 2005.
- 3 Melegaro A, Edmunds WJ, Pebody R, Miller E, George R. The current burden of pneumococcal disease in England and Wales. *J Infect* 2006;52:37–48.
- 4 Kyaw MH, Rose CE Jr, Fry AM *et al*. The influence of chronic illnesses on the incidence of invasive pneumococcal disease in adults. *J Infect Dis* 2005;192:377–86.
- 5 Arthur G, Nduba VN, Kariuki SM *et al*. Trends in blood stream infections among Human Immunodeficiency Virus-infected adults admitted to a hospital in Nairobi, Kenya, during the last decade. *Clin Infect Dis* 2001;33:248–56.

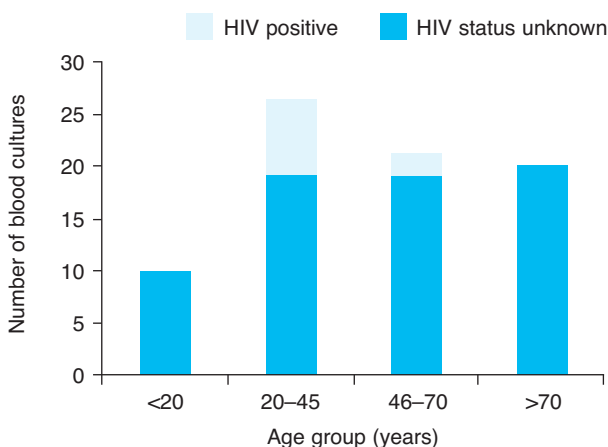


Fig 1. *Streptococcus pneumoniae* blood stream isolates by age and HIV status over a 30-month period at Heatherwood and Wexham Park Hospitals.