N gonorrhoeae (by colony morphology, Gram stain, oxidase positivity, and agglutination by monoclonal antibody) would be available from both Biocult-GC and TM plates inoculated at patient care area in 24 to 48 hours, and final results with antibiotic sensitivity 24 hours later. Savings in labour costs and culture materials may also be achieved as only Biocult-GC and TM plates with colonies suspected to be N gonorrhoeae need to be further studied and cultured at the microbiological laboratories. It has to be emphasised, however, that our results were obtained in a department where the samples were taken by STD specialists, and in a department which is supported by a medical microbiology laboratory next door. A comparison between Biocult-GC nutritive transport system and nonnutritive transport media should be performed in primary health care centres in order to test the survival of gonococci in the two systems.

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Hepatitis B infection post Engerix B vaccination

We report a case of documented hepatitis B virus (HBV) infection despite active immunisation with Engerix B vaccine and positive hepatitis B surface antibody (anti-HBs).

A 21 year old homosexual man was first diagnosed to be HIV antibody positive in January 1991. He remains asymptomatic. His latest T helper cell count in January 1993 was 0-42 × 10^9/l. Hepatitis serology in January 1991 showed negative hepatitis B surface antigen (HBsAg) and negative hepatitis B core antibody (anti-HBc), both performed with radioimmunoassay (RIA).

Three doses of 20 μg (1 ml) of Engerix B (Smith Kleine French) hepatitis B vaccine were given by deep intramuscular injection in March, May and October of 1991. Three months later he still showed negative HBsAg, antiHBc and anti HBs (measured by enhanced luminescent assay). A fourth dose of Engerix B was given in April 1992. Two months later he showed negative HBsAg, negative anti-HBc, but weakly positive anti-HBs, with a titre of only 14 miU/ml. A further dose of vaccination was therefore recommended.

However, the patient defaulted follow-up for the next six months and returned in January 1993 for a routine check-up. The fifth dose of Energix B vaccine was then given.

Repeat hepatitis serology two weeks later showed positive HBsAg, positive anti-HBc, positive HBeAg, negative anti-HBs, negative anti-HBe and negative anti-HBc IgM. His aspartate amino transferase (AST) level was elevated to 290 U/l (5–35 U/l). Nine days later he had negative HBsAg, positive anti-HBc IgM, negative HBeAg and positive anti-HBe. His AST was 91 U/l. He remained totally asymptomatic during this period, and had a normal serum bilirubin level (11 μmol/l). These results indicate that he had a subclinical hepatitis B infection (table). He admitted to unprotected penetrative sexual intercourse with his regular partner, whose HIV and hepatitis status is not known. He is not known to be an intravenous drug user or have any other risk factors for hepatitis B infection.

This case illustrates several interesting points. Firstly, the time required for effective hepatitis immunisation can be quite protracted, especially in the initial non-responders. Patients can therefore become infected with hepatitis B virus during the process of immunisation.

Secondly, anti-HBs level of 14 miU/ml failed to protect this patient from hepatitis B infection, although it may have served to protect him against clinical disease and against becoming a chronic carrier. HBV infection events are known to occur in subjects who are either poor or non-responders to vaccine.1,2 The highest anti-HBs titre described which failed to protect against HBV infection was 23 samples to ratio units, which are equivalent to our miU/ml.1 In our laboratory, we consider anti-HBs level below 100 miU/ml as poor responders and recommended booster doses for these patients.

Thirdly, this patient’s hepatitis infection was detected through a laboratory screening programme which included HBsAg and anti-HBc as the primary tests. Anti-HBs is included for those with a history of vaccination or those who are anti-HBc positive, indicating natural infection in the past. This case would not have been discovered if testing were confined to looking for anti-HBs. It is

Table Hepatitis serology and AST results

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<tr>
<th>Date</th>
<th>HBsAg</th>
<th>Anti HBc Total</th>
<th>Anti HBc IgM</th>
<th>HBsAg</th>
<th>Anti HBs</th>
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</tbody>
</table>


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important to screen HBsAg and anti-HBc on patients in high risk groups in whom infections may be subclinical.

Finally, as shown by this case, many HIV infected individuals continue to practice unsafe sexual activities, thus emphasising the great importance of safer sex education amongst HIV infected individuals.

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