Prophylaxis against hepatitis A for travel

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Abstract

Objective—To develop a rational practice policy for prophylaxis against hepatitis A for travellers to high risk areas.

Design—18 Month prospective study of consecutive patients who requested prophylaxis against hepatitis A.

Setting—Inner city general practice.

Subjects—104 Patients aged 15-61 (mean 30) assessed for risk factors for hepatitis A and put into groups depending on predictions from the risk factors of their immunity.

Main outcome measures and results—All patients were screened for antibody to hepatitis A virus. Of 52 patients with no risk factors 47 had no antibody and were thus susceptible to hepatitis A. All 27 patients with major risk factors (having been brought up in an endemic area or with a history of jaundice) were immune. Of 25 patients with minor risk factors (a history of previous travel in high risk areas, drug abuse, having lived in a squat or travelled rough, or having lived with someone who had jaundice) 12 were immune ($p < 0.001$, χ^2 test).

Conclusions—All travellers requesting prophylaxis against hepatitis A should be assessed for risk factors for previous exposure to hepatitis A. Those with no risk factors could be immunised with human normal immunoglobulin without screening. The remainder should be tested for hepatitis A antibody and those found to be susceptible should be immunised.

Introduction

Most young people in developed countries are susceptible to hepatitis A and need passive immunisation with human normal immunoglobulin when they travel to high risk areas such as the Indian sub-continent, Africa, and the Middle and Far East. However, some intending travellers already have antibodies to hepatitis A virus and are immune to the disease for life. If they are screened and shown to be immune they clearly do not need immunoglobulin or retesting for future trips. Similarly, if we could identify

Risk factors for exposure to hepatitis A

Major factors

- Being born and brought up in areas where hepatitis A is endemic
- History of jaundice

Minor factors

- Having travelled in a high risk area
- Drug misuse
- Having lived in a squat or travelled rough
- Having lived with someone who had jaundice.

patients likely to be susceptible to hepatitis A who are making a single visit to an endemic area they could be given immunoglobulin without the expense and inconvenience of screening.

It is likely that few general practices bother with screening tests when travellers request prophylaxis against hepatitis A. We surveyed practices, mainly in the London area, that cared for a total of 115 000 patients, and included three university departments of general practice. Only one practice (2300 patients) routinely offered travellers testing for hepatitis A antibody. The remainder immunised without screening unless there was a previous history of jaundice.

In 1987 Cossar and Reid suggested selective screening before immunising against hepatitis A.¹ We investigated their proposals in patients from a deprived area of central London to see whether we could develop a rational practice policy for prophylaxis against hepatitis A for travellers.

Patients, methods, and results

From March 1988 to October 1989 we studied prospectively 104 consecutive patients who requested prophylaxis against hepatitis A for travel to high risk areas. The age range was 15-61 years (mean 30 years). They were assessed for major risk factors for having been exposed to hepatitis A—namely, being born and brought up in areas where hepatitis A is endemic or having a history of jaundice—and for minor risk factors—namely, having previously travelled in a high risk area; drug abuse; having lived in a squat or travelled rough; or having lived with someone who had jaundice. (Drug abuse and living in a squat may be associated with social habits that put patients at risk of hepatitis A.²)

Patients were grouped according to our predictions, from the risk factors, of their immune state. The 52 patients with no risk factors were put into one group, the 25 patients with minor risk factors were put into

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Immunity to hepatitis A in 104 intending travellers from a London inner city practice grouped by risk factors for previous exposure to hepatitis A

	Risk factors			Total
	Born in Britain or other Western country; never been to high risk area; no at risk behaviour	Possible exposure to hepatitis A	Born in Africa, India, or Bangladesh or had jaundice	
Prediction	Not immune	None	Immune	
Antibody to HAV present (immune)	5	12	27	44
Not present (not immune)	47	13		60
Total	52	25	27	104

$p < 0.001$, χ^2 test.

another, and the 27 patients with major risk factors were put into a third.

Blood was taken and assayed for antibody to hepatitis A virus by a commercially available competitive enzyme linked immunoassay (ELISA) test (Havab, Abbott Laboratories). Those with antibody were told that they were immune to infectious hepatitis and would never need further screening or immunisation against hepatitis A. Those without antibody who returned as requested were immunised.

The table shows the immune state of patients in the three groups. Results were analysed with the χ^2 test and found to be significant ($p < 0.001$).

Discussion

Of 52 patients with no risk factors 47 (90%) were susceptible to hepatitis A, whereas all 27 patients with major risk factors were immune. Those who were immune included two patients with a history of jaundice and 25 who had grown up in Africa or South Asia. Kudesia and Follett found that immigrants from Asia were "invariably immune" to hepatitis A,³ but their children born in Britain will not usually be immune and may be at particular risk if they go back to Asia on holiday without first being immunised.

Overall 42% (44 out of 104) of our patients had antibody to hepatitis A virus, but this included those brought up in an endemic area. Of 74 patients born in Britain, 16 (22%) were immune. A survey of blood donors nearby in south London found that a third had the antibody, but their country of birth was not identified. Most were over 30 years old (prevalence of HAV antibody increases with age^{1,4}).

Human normal immunoglobulin can give 80-90% protection from hepatitis A, which is a major hazard for Europeans in the tropics. In one series 12 of 19 expatriates working in India who did not receive adequate immunisation developed hepatitis A.⁵ The disease has an 0.6% mortality. Serious adverse effects from human normal immunoglobulin given as recommended are rare. The Committee on Safety of Medicines has received 12 reports of non-fatal anaphylaxis and one of death from suspected cerebral haemorrhage possibly associated with injection of human normal immunoglobulin (Committee on Safety of Medicines, personal communication).

Antibody testing costs from £4 to £8. An injection of human normal immunoglobulin costs £3-£9.¹ But our prime concern must be to ensure that none of our susceptible patients visits a high risk area without prophylaxis. We therefore recommend immunising all patients with no risk factors. The rest should be screened for antibody to hepatitis A virus and those found to be susceptible should be immunised.

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