Hepatitis A

Hepatitis A may occur without symptoms or may result in a mild illness lasting a few weeks; however, the disease tends to become more severe with advancing age

Key messages

- **Hepatitis A is an infection of the liver caused by the hepatitis A virus.**
- **The virus is transmitted through contaminated food and water or by direct contact with an infectious person.**
- **Infection may occur without symptoms or may result in a mild illness lasting a few weeks. However, the disease tends to become more severe with advancing age.**
- **The incidence of hepatitis A is closely related to socio-economic conditions. Areas with high levels of infection include low-income countries with poor sanitary conditions and hygiene practices.**
- **Travellers should take care with food, water and personal hygiene.**
- **Hepatitis A vaccines are available for travellers visiting risk areas and other individuals considered to be at risk due to their occupation, lifestyle choice or underlying medical condition.**

Overview

Hepatitis A virus (HAV) is a small, unenveloped RNA virus within the genus Hepatovirus, a member of the family Picornaviridae. It can cause acute inflammation of the liver which can be associated with debilitating symptoms and death in some cases [1]. Each year there are an estimated 1.4 million cases globally [1].

Risk areas

The incidence of hepatitis A is closely related to socio-economic conditions, and sero-epidemiological studies show that prevalence of anti-hepatitis A antibodies varies from 15% to close to 100% in different parts of the world [2, 3].

Areas with high levels of infection include low-income countries with poor sanitary conditions and hygiene practices [1, 3]. Regions where hepatitis A is highly endemic include South Asia (particularly Bangladesh, India, Nepal and Pakistan), Sub-Saharan and North Africa, parts of the Far East (except Japan), South and Central America and the Middle East. Clinical cases of hepatitis A in adults are uncommon in highly endemic countries as approximately 90% of children will have been infected before the age of 10 years [1]. Young children often do not display symptoms but acquire life-immunity following infection.

In some countries of the Americas, Asia and the Middle East, there has been a reduction in the incidence of hepatitis A [4]. These countries are now in transition from high to intermediate or low endemicity. Children often escape infection in early childhood in these areas, but these improved conditions may lead to higher susceptibility in older age groups (as they may not have acquired immunity) and higher disease rates can occur in adolescents and adults, causing large outbreaks [1, 2].

Most high-income countries such as Australia, Japan and New Zealand, and those in North America and Northern Europe are of low endemicity for hepatitis A (areas with low levels of infection). The majority of the population in these countries will have no immunity to hepatitis A and are therefore susceptible to the infection. Disease may occur among adolescents and adults in high-risk groups such as people who inject drugs, men who have sex with men, and people travelling to areas of high endemicity.

Countries or areas with moderate to high risk can be seen on the World Health Organization map. Please note, risk areas can change, check country-specific information and vaccine recommendations on our Country Information pages.

Risk for travellers

The risk of acquiring hepatitis A from contaminated food and water in high-income countries is low. Non-immune travellers are at risk of contracting the disease during visits to countries of high or intermediate endemicity. The risk during travel depends on living conditions, length of stay and standards of food and water hygiene. Those at higher risk include travellers visiting friends and relatives (VFRs) [5], frequent and/or long-stay travellers, men who have sex with men, those who inject drugs and those visiting areas of poor sanitation who have limited access to safe food and water [6, 7]. However, cases have occurred in tourists staying in good quality hotel accommodation [8].

Hepatitis A remains one of the most common travel-related vaccine preventable diseases. However, the incidence in travellers is declining [9]. It is estimated that the incidence rate of hepatitis A amongst non-immune travellers to countries in Africa is approximately 1/10,000 travellers per month and for areas of Latin America approximately 1/100,000 travellers per month [9].

Hepatitis A in UK travellers

Since the mid-1990s there has been a decline in laboratory-confirmed cases of hepatitis A reported in England and Wales [7, 10]. However, travel history or other risk factor information is seldom reported, so it is difficult to say whether the decline is due to a change in travel patterns or to other factors.

During 2019 there were 503 confirmed laboratory reports of hepatitis A virus infection in England and Wales [11]. Travel history was available for only 16.9 percent of reported cases [11]. The highest risk areas for UK travellers are South Asia, the Middle East, Africa, Southeast Asia and Eastern Europe [7].

Transmission

Hepatitis A is usually acquired through consumption of food or water contaminated by human faeces [1]. Foods that grow close to the ground such as strawberries and lettuce can be a risk as can raw or undercooked food such as meat and fish. Crustaceans that feed at the bottom of the ocean such as oysters and clams can concentrate the virus and be a risk if ingested under-cooked or raw. Food handlers excreting hepatitis A virus can contaminate foods if they do not observe good personal hygiene.

Person to person transmission in conditions of poor faecal hygiene is also a risk factor. This mode of transmission can occur during certain sexual practices (e.g. oral/anal sexual contact) or through unhygienic injection drug use [1, 7].

Virus shedding in the faeces occurs during the incubation period of hepatitis A and continues for a week after the onset of symptoms or jaundice (yellowing of the eyes and skin), if present. It is at this stage that patients are most infectious. Virus shedding can be prolonged in immunosuppressed persons. Children may excrete the virus for longer than adults, but a chronic carrier state does not exist [12].

Signs and symptoms

Hepatitis A is usually a sub-clinical infection (without symptoms) in young children.

After an average incubation period of approximately 28 days (range of 15-50 days), patients may experience malaise, anorexia (loss of appetite), nausea and fever before developing jaundice [2, 13]. Jaundice may occur in 70 to 80 percent of those infected as adults with the disease [7]. Recovery takes about a month in young people, but some patients are ill for many weeks. Complications are more likely in those with pre-existing chronic liver disease and can include fulminant hepatitis (severe liver damage). Overall the case-fatality ratio is low, but is greater in older people [7].

Hepatitis A infection does not cause chronic (long-term) liver disease [1]. Following clearance of hepatitis A infection patients acquire lifelong immunity.

Diagnosis and treatment

Diagnosis is made by the detection of specific antibodies in the blood. Health professionals should be alert to the possibility of hepatitis A in travellers who have returned from endemic areas and who develop symptoms. Hepatitis A is a notifiable disease and should be notified accordingly. Laboratory confirmed serum samples and the appropriate request forms should be completed and sent to the UKHSA Virus Reference Department for confirmatory testing and molecular analysis.

There is no specific antiviral treatment for hepatitis A, but rather supportive intervention (treatment to help manage the symptoms).

Preventing hepatitis A

Hepatitis A is transmitted via the faecal-oral route; therefore the most common mode of infection for travellers is through eating contaminated food, or drinking contaminated water. The risk of acquiring hepatitis A can be reduced by following advice on food and water hygiene and by ensuring good personal hygiene. Hands should be washed after visiting the toilet, changing nappies and always before preparing or eating food.

Travellers should avoid sharing equipment for drug injection and maintain high standards of hygiene during sex.

Several effective hepatitis A vaccines are available for travellers intending to visit endemic areas. The vaccine is a complement to food and water hygiene and other precautions.

Vaccine information

A number of factors are considered when determining whether hepatitis A vaccine is advised for travel to a particular country. These factors include the prevalence of hepatitis A in the local population, access to improved sanitation and economic development of the country.

Vaccination is recommended for most travellers to countries where the prevalence of hepatitis A infection in the local population is considered to be high [2].

In countries where there is a lower risk of hepatitis A infection, factors such as access to improved sanitation, travel plans and medical conditions are considered in the risk assessment. Travellers who may be at increased risk of hepatitis A infection include:

- Those staying with or visiting the local population.
- Frequent and/or long-stay travellers to areas where sanitation and food hygiene are likely to be poor.
- Those with existing medical conditions such as liver disease or haemophilia.
- Men who have sex with men.
- People who inject drugs.

- Those who may be exposed to the virus through their work.
- Those going to areas of hepatitis A outbreaks who have limited access to safe water and medical care.

Country-specific information on the risk of hepatitis A can be found in our Country Information pages.

In countries with a low prevalence of hepatitis A infection, vaccination is not usually recommended unless a traveller is at particular risk of hepatitis A due to their work, lifestyle choice or underlying medical condition. See Immunisation against infectious disease known as the 'Green Book'.

Availability of vaccine

Several vaccines are licensed for use in the UK, all of which are inactivated.

Details of these can be found in the summary table below. The Summary of Product Characteristics (SmPC), available via the electronic medicines compendium (emc) should be consulted prior to the administration of any vaccine.

Combined hepatitis A and B vaccines, and combined hepatitis A and typhoid vaccines are available.

Vaccine schedules

(listed alphabetically)

Vaccine	Schedule	Length of protection against hepatitis A	Age range
Ambirix Combined hepatitis A and B	2 doses, given 6-12 months apart	Hepatitis A: Up to 25 years following 2nd dose*. See also hepatitis B factsheet	1 to 15 years
AVAXIM	2 doses, given 6-12 months apart	Up to 25 years following 2nd dose*	≥ 16 years
Avaxim Junior	2 doses, given 6-36 months apart	Up to 25 years following 2nd dose*	1 to 15 years
Havrix Monodose	2 doses, given 6-12 months apart	Up to 25 years following 2nd dose*	≥ 16 years
Havrix Junior	2 doses, given 6-12	Up to 25 years	1 to 15 years

Monodose	months apart	following 2nd dose*	
Hepatyrix Combined hepatitis A and typhoid (Discontinued)	1 dose followed by a single antigen hepatitis A vaccine 6-12 months later	Hepatitis A: up to 25 years following 2nd dose*. See also typhoid and paratyphoid factsheet	≥ 15 years
Twinrix Adult Combined hepatitis A and B	3 doses, 0, 1, and 6 months	Hepatitis A: up to 25 years following 3rd dose*. See also hepatitis B factsheet	≥ 16 years
	4 doses, days 0, 7 and 21, 4th dose at 12 months	Hepatitis A: up to 25 years following 4th dose*. See also hepatitis B factsheet	≥ 18 years
Twinrix Paediatric Combined hepatitis A and B	3 doses, 0, 1 and 6 months	Hepatitis A: up to 25 years following 3rd dose* See also hepatitis B factsheet	1 to 15 years
VAQTA Adult	2 doses, given 6-12 months apart	Up to 25 years following 2nd dose*	≥ 18 years
VAQTA Paediatric	2 doses, given 6-18 months apart	Up to 25 years following 2nd dose*	1 to 17 years
ViATIM (Discontinued) Combined hepatitis A and typhoid	1 dose followed by a single antigen hepatitis A vaccine 6-12 months later	Hepatitis A: Up to 25 years following 2nd dose* See also typhoid and paratyphoid factsheet	≥ 16 years

*** UKHSA 'green book' recommends that until further evidence is available on persistence of protective immunity, a booster dose at 25 years is indicated for those at ongoing risk of hepatitis A [7]. Specific advice should be sought for individuals with altered immune responses; an earlier booster may be recommended. The manufacturers Summary of Product Characteristic available on the electronic medicines compendium may have different data on duration of protection. When this occurs, the recommendations in the green book (which are based on current expert advice received from the Joint Committee on Vaccination and Immunisation (JCVI)) should be followed.**

The monovalent hepatitis A vaccines can be used interchangeably [7, 14-16]. Travellers who have received a combined hepatitis A and typhoid vaccine can be boosted with the monovalent vaccines. For the combined hepatitis A and hepatitis B vaccines, it is good practice to complete a course with the same brand where possible as antigen content and schedules may vary.

Interrupted courses

The Summary of Product Characteristics (SPC) for Avaxim states that the second dose may be administered up to 36 months after the primary dose [17].

The SPC for Havrix Monodose states that a second dose that is delayed for up to 5 years can be expected to obtain a satisfactory antibody response but approximately 30% of individuals receiving a delayed booster have no detectable anti-HAV antibodies prior to booster dosing [18]. For Havrix Junior Monodose, a booster (second dose) that is delayed for up to 3 years can be expected to induce similar antibodies as a second dose given within the recommended 6-12 months [19].

Vaqta Paediatric second doses can be administered up to 18 months following the primary dose [20].

Although second doses delayed beyond the recommended intervals described above are not covered by the product licence, research indicates that a second dose given at long intervals will still result in a boosting immune response [16, 21-24].

Thus, based on evidence from available studies, there is no maximum interval which would require restarting a course of hepatitis A vaccine.

Contraindications

- Current febrile illness.
- Individuals who develop hypersensitivity reactions after vaccination should not receive further doses.
- Hypersensitivity to a component of the vaccine.

Adverse events

Adverse reactions following hepatitis A vaccine tend to be mild and transient. They include tenderness, redness and swelling at the injection site. Less commonly, fever, headaches, dizziness and malaise have been reported.

Resources

- World Health Organization: Position paper; hepatitis A vaccines
- UK Health Security Agency: Immunisation against infectious disease; Chapter 17; hepatitis A

- UK Health Security Agency: Hepatitis A: guidance, data and analysis
- NHS: Hepatitis A
- World Health Organization: Burden of disease attributable to unsafe drinking- water sanitation and hygiene: 2019 update

REFERENCES

1. World Health Organization. Hepatitis A fact sheet. 2023; 20 July 2023 [Accessed 29 September 2023]
2. World Health Organization. The global prevalence of hepatitis A virus infection and susceptibility: A systematic review. WHO/IVB/10.01, 2010 [Accessed 29 September 2023]
3. Zeng DY, Li JM, Lin S, et al. Global burden of acute viral hepatitis and its association with socioeconomic development status, 1990-2019. J Hepatol. 2021;75(3):547-556. [Accessed 29 September 2023]
4. Jacobsen KH. Globalization and the Changing Epidemiology of Hepatitis A Virus.. 2018;8(10):1-12. [Accessed 29 September 2023]
5. Public Health England. Foreign travel-associated illness - a focus on those visiting friends and relatives, 2008 report. London, Health Protection Agency; 2008 [Accessed 29 September 2023]
6. Balogun O, Brown A, Angelo KM et al. Acute hepatitis A in international travellers: a GeoSentinel analysis, 2008-2020. [Accessed 29 September 2023]
7. UK Health Security Agency, Hepatitis A, Immunisation against infectious disease, Chapter 17, last updated 11 February 2022 [Accessed 29 September 2023]
8. MacDonald E, Steens A, Stene-Johansen K et al. Increase in Hepatitis A in tourists from Denmark, England, Germany, the Netherlands, Norway and Sweden returning from Egypt, November 2012 to March 2013 [Accessed 29 September 2023]
9. **Steffen R, Chen LH, Leggat PA. Travel vaccines- priorities determined by incidence and impact. Journal of Travel Medicine 2023,1-14.**
10. **Public Health England. Hepatitis A laboratory reports by travel history, England and Wales, 1998-2009**
11. Public Health England. Laboratory reports of hepatitis A infection in England and Wales 2019. Health Protection report 15;7. 27 April 2021 [Accessed 29 September 2023]
12. Public Health England, Guidance for the prevention and control of hepatitis A infection. 16 November 2018. [Accessed 29 September 2023]
13. Nelson N, Weng M. Hepatitis A. In: Centers for Disease Control and Prevention. CDC Health Information for International Travel 2024. New York: Oxford University Press, 2014. [Accessed 29 September 2023]
14. **Ott JJ, Irving G, Wiersma ST. Long-term protective effects of hepatitis A vaccines. A systematic review. Vaccine 31; 3-11, 2012.**
15. **Clarke P, Kitchin N, Souverbie F. A randomised comparison of two inactivated hepatitis A vaccines, Avaxim and Vaqta, given as a booster to subjects primed with Avaxim. Vaccine 19:4429-33, 2001.**
16. **Beck BR, Hatz CFR, Loutan L, Steffen R. Immunogenicity of booster vaccination with a virosomal hepatitis A vaccine after primary immunization with an aluminum-adsorbed hepatitis A vaccine. J Travel Med. 11:201-7, 2004.**
17. Sanofi Pasteur MSD Ltd. Summary of Product Characteristics Avaxim. [Accessed 29 September 2023]
18. GlaxoSmithKline UK. Summary of Product Characteristics Havrix Monodose. [Accessed 29 September 2023]
19. GlaxoSmithKline UK. Summary of Product Characteristics Havrix Junior Monodose. [Accessed 29 September 2023]

20. Sanofi Pasteur MSD Ltd. Summary of Product Characteristics Vaqta Paediatric. [Accessed 29 September 2023]

21. **Van Damme P, Banatvala J, Fay O et al. Hepatitis A booster vaccination: is there a need? Lancet 362:1065-71, 2003.**

22. **Beck BR, Hatz C, Bronnimann R, Herzog C. Successful booster antibody response up to 54 months after single primary vaccination with virosome-formulated, aluminum-free hepatitis A vaccine. Clin Infect Dis. 37:e126-8, 2003.**

23. **Landry P, Tremblay S, Darioli R, Genton B. Inactivated hepatitis A vaccine booster given ≥ 24 months after primary dose. Vaccine 19: 399-402, 2001.**

24. **Iwarson S, Lindh M and Widerstrom L. Excellent booster response 4 to 8 years after a single primary dose of an inactivated hepatitis A vaccine. J Travel Med. 11:120-1, 2004.**

Published Date: 29 Sep 2023

Updated Date: 29 Sep 2023