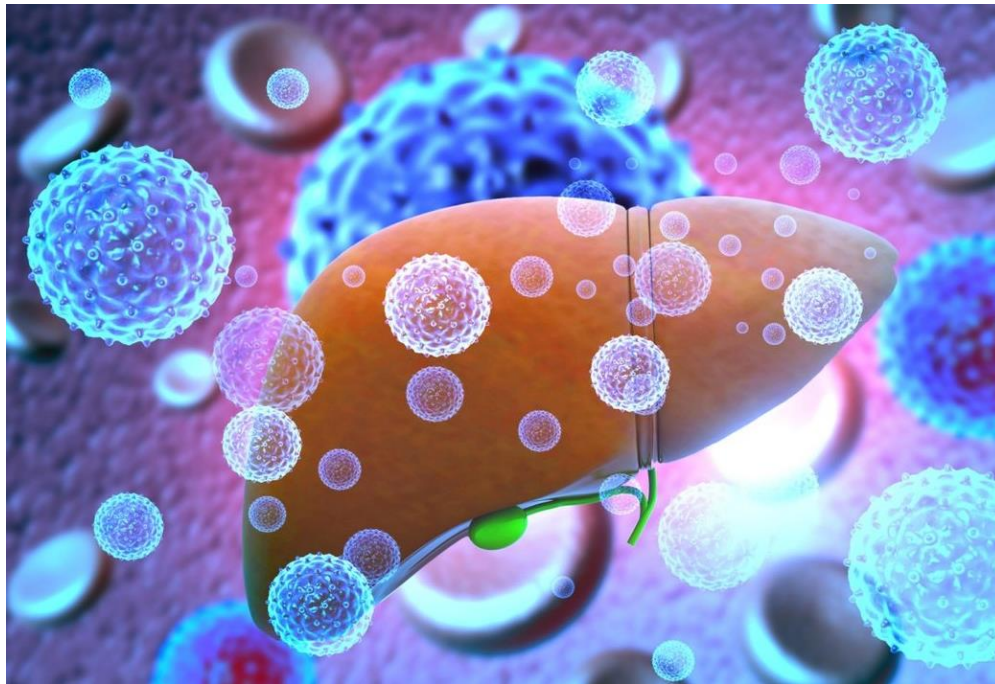


What is the mystery hepatitis affecting children around the world?

20 countries have reported acute liver inflammation in young patients, many of them previously healthy

Health experts are investigating several possibilities, including Covid-19 and the common viruses that cause colds and flu-like illnesses



None of the known hepatitis viruses have been identified in the hundreds of cases reported across 20 countries involving young children. Photo: Handout

Scientists are racing to understand the cause of an acute liver inflammation which has left at least nine children dead and affected hundreds of others in 20 countries in just over a month.

More than 348 cases of the mystery hepatitis strain have been reported, with some children needing liver transplants. Most patients were previously healthy.

Hepatitis is uncommon among children and testing has ruled out the five known hepatitis viruses. Several hypotheses are being considered – including whether the illnesses are related to Covid-19. Some progress has been made in refining the investigation in recent weeks, as health experts try to uncover the cause of the cases. Here is what scientists know so far and what steps they are taking to identify the mystery hepatitis.

How many cases have been identified?

The first cases were reported to the World Health Organization (WHO) in early April, after 10 previously healthy children aged up to five years old were diagnosed with acute hepatitis in central Scotland.

A WHO investigation soon found further cases in Britain and 11 other countries.

On Tuesday (May 10, 2022), the health agency said 348 probable cases of acute hepatitis among children had been identified across five regions, mostly in Europe, with 70 suspected infections under investigation.

The WHO's tally is a mix of new and retrospective cases. Only six countries have reported more than five infections with the mysterious strain.

How serious is it and what are the symptoms?

Five children have died in the United States, according to the US Centres for Disease Control and Prevention. The CDC said more than 90 per cent of the 109 children with the illness were hospitalised and 14 per cent required liver transplants.

In Indonesia, where 14 cases were reported, four have died. Symptoms include jaundice, diarrhoea, vomiting and abdominal pain, but often without an accompanying fever.

What may be causing this illness?

Hepatitis refers to liver inflammation, which is usually the result of a viral infection or damage caused by too much exposure to toxins such as alcohol, prescribed drugs, herbs or industrial chemicals.

An “attack” by the body’s own immune system can also lead to autoimmune hepatitis and damage to the liver.



Testing has excluded the five known hepatitis types A, B, C, D and E, while Covid-19 and some common adenoviruses – typically responsible for mild colds and flu-like illnesses – were identified in many of the children.

Scientists are now studying whether these adenoviruses, found in about 70 per cent of the children with confirmed hepatitis in Britain, were behind the outbreak. There are more than 50 adenoviruses and some of the patients were found to be infected with a particular type, called F41.

The F41 adenovirus typically causes diarrhoea, vomiting, and fever, often accompanied by respiratory symptoms. It can cause hepatitis in immunocompromised children but is not a known cause of hepatitis in otherwise healthy young people.

Is an adenovirus to blame?

Adenovirus infection is considered a leading contender, but scientists so far have not made a conclusive link.

The WHO said enhanced laboratory testing for adenoviruses, combined with an increase in tests, could point to an existing rare outcome at levels that had previously been undetected.

Senior scientist Philippa Easterbrook, from the WHO’s Global Hepatitis Programme, HIV department said more histological examinations of tissue and liver samples had been carried out in the past week.

“None of this show any of the typical features you might expect with liver inflammation due to adenovirus. We are awaiting further examination of biopsies,” she said at a media briefing on Tuesday.

A significant increase in adenovirus infections were observed in Britain, which has also reported most of the world’s cases with 163 infections, and scientists are working to see whether they were the cause of the hepatitis or coincidental.

“Hopefully, within the week, there will be data from the UK on that important case control study comparing whether the detection rate of adenovirus in the children with liver disease differs from that in other hospitalised children,” Easterbrook said.

“That will really help hone down whether adenovirus is just an incidental infection that has been detected or there is a causal or likely causal link.”

Could Covid-19 have played a role?

While the leading hypotheses involve adenovirus, scientists are also considering whether Covid-19 may be contributing to the mystery illness, either through co-infection or from a previous infection.

A total of 18 per cent of all the children had tested positive for Sars-CoV-2, the virus which causes Covid-19.

Studies in the US, Brazil and India reported small numbers of children who needed treatment for hepatitis after catching Covid-19, but most recovered quickly.

Further testing of blood samples will help scientists learn whether other affected children also were previously infected with Covid-19.

“The big focus over the next week is really looking at serological testing for previous exposure and infections with Covid,” Easterbrook said.

Could Covid-19 vaccines be involved?

The UK Health Security Agency has ruled out a link between the hepatitis cases and Covid-19 vaccines, which do not contain viruses that can grow in the human body.

More than three-quarters of the cases occurred in children under five years old – an age group which is not open to Covid-19 vaccination.



Among older patients, fewer than five were vaccinated against Covid-19 before developing hepatitis.

What is being done to prevent more cases?

It is hard to name effective measures with the cause of the hepatitis yet to be pinned down. The WHO has a well-established reporting system in Europe and is establishing systems with similar data collection tools across other regions.

China’s General Administration of Customs has issued a directive aimed at preventing imported cases of the unexplained hepatitis from countries that have reported the illness.

Beijing’s health commission last month issued a notice to hospitals to increase surveillance and treatment of hepatitis in children as precaution, but the country has yet to report a single case. -

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