

Coronavirus infection in children—it may not start with a cough

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Children suffering from sickness and diarrhea, coupled with a fever or history of exposure to coronavirus, should be suspected of being infected with COVID-19, recommends a new study published in *Frontiers in Pediatrics*.

The research also suggests that the [gastrointestinal symptoms](#) first suffered by some [children](#) hints at potential infection through the [digestive tract](#), as the type of receptors in cells in the lungs targeted by the virus can also be found in the intestines.

"Most children are only mildly affected by COVID-19 and the few severe cases often have underlying health issues. It is easy to miss its diagnosis in the early stage, when a child has non-[respiratory symptoms](#) or suffers from another illness," says author of this study, Dr. Wenbin Li, who works at the Department of Pediatrics, Tongji Hospital, Wuhan, China.

He continues, "Based on our experience of dealing with COVID-19, in regions where this virus is epidemic, children suffering from digestive tract

symptoms, especially with fever and/or a history of exposure to this disease, should be suspected of being infected with this virus."

In this study, Li and his colleagues detail the clinical features of children admitted to hospital with non-respiratory symptoms, which were subsequently diagnosed with pneumonia and COVID-19.

"These children were seeking medical advice in the emergency department for unrelated problems, for example, one had a kidney stone, another a head trauma. All had pneumonia confirmed by chest CT scan before or soon after admission and then confirmed to have COVID-19. While their initial symptoms may have been unrelated, or their COVID-19 symptoms were initially mild or relatively hidden before their admission to hospital, importantly, 4 of the 5 cases had digestive tract symptoms as the first manifestation of this disease."

By highlighting these cases, Li hopes that doctors will use this information to quickly diagnose and isolate patients with similar symptoms, which will aid early treatment and reduce transmission.

The researchers also link the children's gastrointestinal symptoms, which have been recorded in [adult patients](#), to an additional potential route of infection.

Li explains, "The gastro-intestinal symptoms experienced by these children may be related to the distribution of receptors and the transmission pathway associated with COVID-19 infection in humans. The virus infects people via the ACE2 receptor, which can be found in certain cells in the lungs as well as the intestines. This suggests that COVID-19 might infect patients not only through the [respiratory tract](#) in the form of air droplets, but also through the digestive tract by contact or fecal-oral transmission."

While COVID-19 tests can occasionally produce false positive readings, Li is certain all these five children were infected with the disease, but he cautions that more research is needed to confirm their findings.

"We report five cases of COVID-19 in children showing non-respiratory symptoms as the first manifestation after admission to hospital. The incidence and clinical features of similar cases needs further study in more patients."

More information: *Frontiers in Pediatrics*, DOI: [10.3389/fped.2020.00258](https://doi.org/10.3389/fped.2020.00258) , www.frontiersin.org/articles/10.3389/fped.2020.00258/full

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