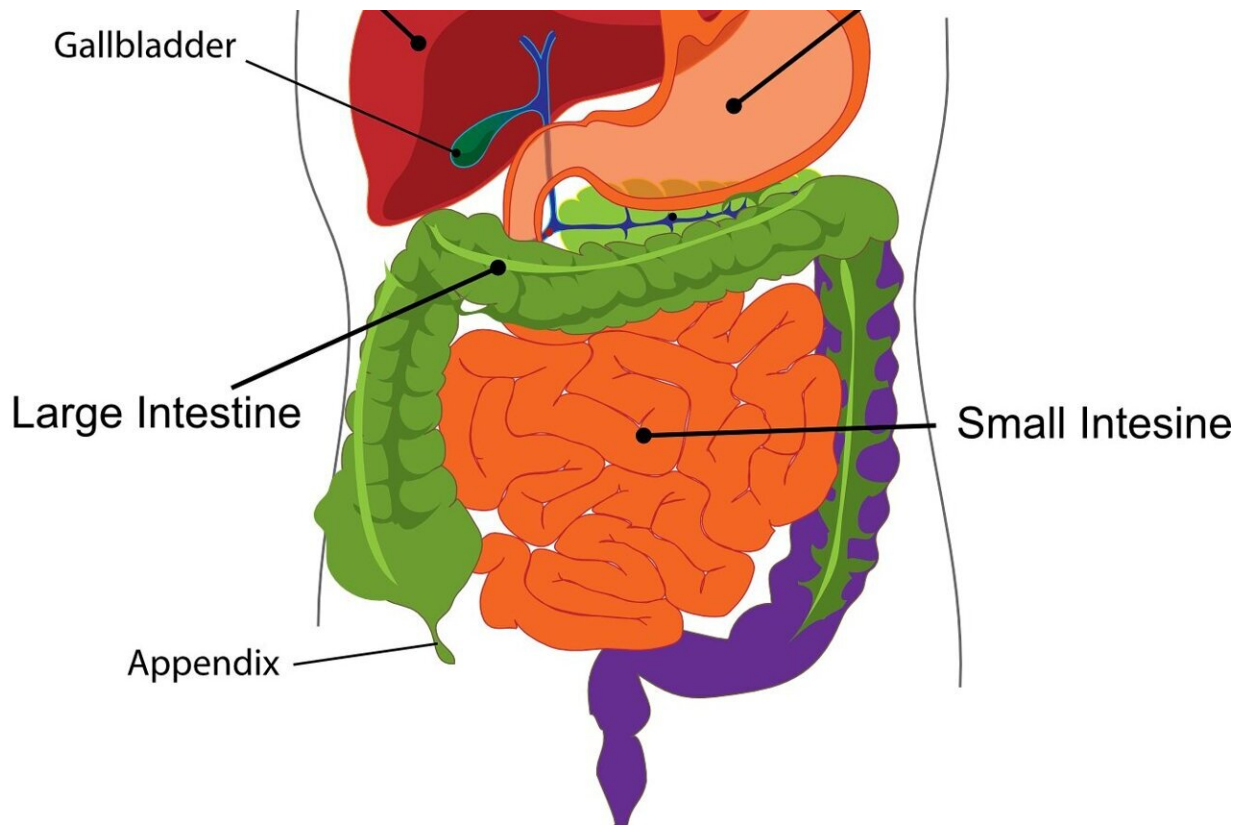


Activity levels of four genes linked to pediatric appendicitis severity diagnosis

February 21 2024, by Bob Yirka



Credit: Pixabay/CC0 Public Domain

A multi-institutional team of medical researchers has found that measuring the activity of four specific genes in pediatric patients suspected of having appendicitis can predict whether the case is simple

or perforated. In their [study](#), reported in the journal *JAMA Pediatrics*, the group studied gene expression signatures in children diagnosed with appendicitis to learn more about associations between such signatures and severity of the ailment.

Appendicitis is inflammation of the appendix due to an infection that occurs, generally as a result of a blockage. Such inflammation typically leads to swelling and [abdominal pain](#). Prior research has shown that appendicitis can take many forms, from chronic to acute—in the most severe cases, the appendix bursts, sending fluid into the abdomen, allowing the possibility of blood poisoning and/or sepsis. Children tend to develop appendicitis more often than adults.

While it is generally not difficult to diagnose appendicitis, it is difficult to assess its degree of severity. Less severe cases, where the appendix has not burst, can usually be treated with antibiotics. The more severe cases usually require immediate surgery to remove the appendix.

Because of the difficulty in quickly determining the severity of a case, medical researchers have been looking for possible markers. In this new study, the team in Australia found evidence that measuring the gene activity level for four [specific genes](#) can help to assess the severity of appendicitis in children.

The work involved studying the signatures of gene activity in [pediatric patients](#) that they believed could be linked to appendicitis. In so doing, they found four; PLBD1, S100A12, S100A8 and ANXA3. All four were found to be upregulated in patients suffering from perforated appendicitis.

They also noted that prior research had linked three of the same genes with sepsis severity. In taking [blood samples](#) from 70 pediatric patients diagnosed with [appendicitis](#), testing for gene activity discovered severe

cases 85% of the time.

More information: Maurizio Pacilli et al, New Genetic Biomarkers to Diagnose Pediatric Appendicitis, *JAMA Pediatrics* (2024). [DOI: 10.1001/jamapediatrics.2023.6731](https://doi.org/10.1001/jamapediatrics.2023.6731)

© 2024 Science X Network

Citation: Activity levels of four genes linked to pediatric appendicitis severity diagnosis (2024, February 21) retrieved 27 April 2024 from <https://medicalxpress.com/news/2024-02-genes-linked-pediatric-appendicitis-severity.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.