



## SHROUDED IN MYSTERY THE VERMIFORM APPENDIX

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### Abstract

The function of the appendix and the role it plays in the human body remain a mystery. Recent data have shown a contradicting evidence. On the one hand, removing the appendix lowers the risk for contracting ulcerative colitis, while on the other, it increases the risk for contracting Crohn's disease. We wonder if this would have any bearing on the way we manage acute appendicitis.

### Keywords

Appendix, Function, Effects of appendectomy

Only a few organs in human body are so much encountered by surgeons yet so little is known about them as this worm-like structure dangling off the cecum called the vermiform appendix. A general surgeon on call rarely escapes having to deal with a case or more of acute appendicitis while on duty.

Acute appendicitis is not a new disease. anatomical studies on Egyptian mummies showed the presence of peri-appendiceal adhesions probably caused by such a condition. (1) In ancient times, particularly prior to the invention of anesthesia, operating on a complicated appendicitis would have

been a challenging task, let alone uncertainty when it comes to diagnosis. Every patient with this condition was left to the divine intervention, taking him or her into one of two possibilities; perforation, peritonitis, sepsis and death, or formation of an abscess that would find its way to the surface and drain itself into a fecal fistula.

With the advances in medical diagnosis and management, appendectomy, which is currently the standard of care, has become one of the safest operations performed on human beings.

If we accept the fact that a human being can live equally good with or without an

appendix, one cannot but ask the question of what is the function of the appendix? Does it play any role in the well being of human beings? And if so, what is it? Should surgeons make a concerted effort to save it whenever possible? Is that, in part, why many physicians now are exploring treatment with antibiotics as a definitive measure?

Scientists went back and forth trying to answer these questions to no avail. Darwin theorized that it was a useless organ formed from a receding fold of the cecum when it started to shrink even-since humans switched their diet from leaves to fruits- much easier to digest. (2) A recent study rejected Darwin's theory and suggested that the appendix has evolved between 32 and 38 times. (3) This implies that the appendix does in fact serve a beneficial role in humans.

In addition to harboring extra-thymic lymphoid cells, Parker in 2007 came up with the concept of the appendix is the "safe house" for the beneficial bacteria in the colon. (4) They serve an important immunological function. They train the body how to fight the harmful bacteria by counterbalancing the harmful bacteria effects where the winds will take us in our journey of cracking the code of the vermiform appendix? Only time can tell.

in the colon. There are times when the harmful bacteria may overwhelm the beneficial ones causing them to retreat into the appendix where they cannot be reached. Once the body immunity takes control of the situation, the beneficial bacteria would come out and repopulate the colon.

It gets even more complicated when it comes to the effect of appendectomy on inflammatory bowel disease. Recent studies have shown that removal of the appendix increases the risk of Crohn's disease (5) but ironically it protects against ulcerative colitis. (6) While both diseases are autoimmune in nature ignited by genetic and environmental causes, they lead to derangement in the gut microbiome leading to severe inflammation. It is rather odd to see removal of the appendix had a conflicting effect on two diseases that we believe share the same pathophysiology, which adds even more to the mystery.

Today, and after centuries of dealing with the appendix, the saga continues. We are no close to uncovering the mysteries this organ is shrouded in than when it first became known. Who knows

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