

Penn scientists develop combined medical and surgical care plan for managing Crohn's disease

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The first published combined medical and surgical care plan for managing septic perianal Crohn's disease, a serious complication that occurs in around 40 percent of Crohn's disease patients, has been developed by researchers at Penn State College of Medicine. The plan and its results took more than a decade to develop and are based on patient outcomes.

Crohn's disease is a type of inflammatory bowel disease. Patients with septic perianal Crohn's disease have infected abscesses that then develop into fistulas. These open wounds are notoriously hard to treat and are a significant cause of patient discomfort.

Prior to the introduction of an immunosuppressant medication called infliximab in 1998, septic perianal Crohn's disease was typically treated with surgery. While early studies of the drug showed a response rate of up to 60 percent, only 25 percent of patients continued to experience healing after one year on this medication.

"What was thought to be a silver bullet of sorts for this problem really is not," said Dr. Walter A. Koltun, professor of surgery.

Yet, most patients continue with the expensive treatment -- despite the possibility of significant side effects -- because they and their doctors fear the condition will worsen if they stop, Koltun explained.

Researchers at Penn State College of Medicine and its affiliated hospital, the Milton S. Hershey Medical Center, have been investigating an alternative treatment plan based on patient care outcomes and using medicines coordinated with surgery. They published their result in the *Journal of the American College of Surgeons*.

"What we did with this study is look at a combined medical and surgical protocol for managing this problem, recognizing that there's a role for the medicines, and there's a role for the surgery," Koltun said. "Although this is acknowledged by most surgeons and gastroenterologists, no one had written down a protocol to follow that is predictable in its outcome."

The protocol is a decision tree that describes when and what types of surgical treatment could be used for fistulas that do not respond to medical management and what the chances of healing are.

An analysis of 135 episodes of septic perianal Crohn's disease treated at the hospital using this protocol found a 60 percent rate of healing lasting at least six months using a combined medical and surgical approach.

Among the remaining 40 percent, half of patients did not heal and needed a permanent ostomy bag while the other half saw some improvement but did not heal completely.

The researchers also analyzed gene variations called single nucleotide polymorphisms, or SNPs, to see if any predicted healing. Although the results were not statistically significant, certain SNPs emerged that have been suggested by other studies as playing a role in septic perianal Crohn's disease.

"We're gaining some sense of confidence that there are a certain number of genes that, if adversely affected, predispose patients toward having this problem and possibly not healing well," Koltun said.

Multi-center studies that include more patients and have greater statistical power are needed to shed more light on genetic factors in septic perianal Crohn's disease and healing, he added.

Koltun hopes this care plan will help patients get treated in a more consistent fashion, "in a way that then allows the physician and the patient some confidence in regard to the outcome," he said.

Using the protocol, physicians and patients will also have clearer guidance on when it makes sense to discontinue use of the drug and opt for surgery.

"Our protocol provides a paradigm for when you perhaps should stop the drug and when to consider surgery with or without medication," Koltun said.

Source:
Penn State
