Research Summary: Diverticulitis #1

As featured in Dr. Kenny Mittelstadt's video:
"New Data on How to Treat Diverticulitis"
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Research Context:

This week's topic explores how diverticulitis may not always be the straightforward infection it was once thought to be. For decades, the standard approach was antibiotics and imaging whenever diverticulitis appeared.

But emerging research is beginning to show that uncomplicated diverticulitis may behave more like an inflammatory condition influenced by multiple body systems.

In the video, Dr. Kenny walks viewers through why this shift matters. The deeper question is not only how to treat a flare once it starts, but why some people live with diverticulosis (small pouches in the colon wall) for decades without problems while others develop repeated inflammation.

The research below helps illuminate the systems that may influence that difference.

Key Findings from the Research:

Study 1 (PMID 36775316):
A 2023 systematic review and meta-analysis examined four randomized clinical trials including 1,809 patients with acute uncomplicated diverticulitis. Researchers compared outcomes in patients treated with antibiotics versus those treated with supportive care alone.The findings were striking: recovery time, complications, recurrence rates, and the need for surgery were similar in both groups. In practical terms, many people improved without antibiotic therapy at all.This does not mean antibiotics are obsolete. They remain critical for complicated diverticulitis, immune suppression, or worsening symptoms. What this research suggests, however, is that diverticulitis may not always be driven by bacterial infection alone.

Study 2 (PMID 39307185):
A 2023 systematic review investigated whether the gut microbiome plays a role in the development of diverticular disease. The microbiome refers to the enormous ecosystem of bacteria living throughout the digestive tract that helps regulate digestion, immune signaling, and inflammation.Researchers found that individuals with diverticulitis often had lower levels of butyrate-producing bacteria. Butyrate is a short-chain fatty acid produced when beneficial gut microbes ferment dietary fiber. It acts as a key fuel source for colon cells and helps maintain the strength of the intestinal barrier. Lower levels of these bacteria may reduce the resilience of the colon lining, potentially making it more vulnerable to inflammation. At the same time, the authors emphasized that microbiome changes alone do not fully explain diverticular disease.

Study 3 (PMID 37026842):
A 2024 prospective cohort study followed 184,508 adults and documented more than 9,000 cases of diverticulitis over time. Researchers examined how diet and lifestyle patterns that increase insulin signaling (often associated with insulin resistance) relate to diverticulitis risk. Participants with the most hyperinsulinemic diet patterns had a 22% higher risk of diverticulitis, while those with the most hyperinsulinemic lifestyle patterns had a 69% higher risk.Hyperinsulinemic simply means patterns that tend to drive higher insulin levels in the body. These patterns often overlap with metabolic inflammation, blood sugar instability, and certain dietary habits.

Functional Medicine Connections:

Taken together, these studies paint a broader picture of diverticulitis physiology. Diverticulosis provides the structural setup. The pockets already exist in the colon wall. But whether those pockets stay quiet or become inflamed appears to depend on a larger network of interacting systems.

The first study suggests that not every flare behaves like a classic infection. That shifts the conversation toward inflammation and immune response as central drivers.
The second study highlights the potential role of the microbial ecosystem. When butyrate-producing bacteria are reduced, the colon lining may have less support and resilience.

The third study expands the lens even further by connecting diverticulitis risk to metabolic health and systemic inflammation.
When viewed together, these findings suggest that diverticulitis may emerge when several systems converge: the structural environment of the colon, the balance of microbes in the gut, the strength of the intestinal immune barrier, and the body's overall inflammatory tone.

Practical Reflections & Takeaways:

Think about your own patterns for a moment.

Have digestive symptoms ever seemed to flare during periods of higher stress, poor sleep, irregular bowel habits, or changes in diet? Those patterns may not be random. They may be clues about how your body's systems are interacting.

And if you have been told diverticulitis is simply an infection that happens from time to time, the research raises an interesting possibility: the bigger story may involve how the gut's structural environment, microbial balance, immune signaling, and metabolic health all interact.

Sometimes understanding those connections is the first step toward making sense of what your body has been trying to communicate.

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References:

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