Be True to Your Stool

Diarrhea that won't quit calls for a thorough set of stool tests

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Laboratory analyses of blood and other medical measurements, which help health practitioners make diagnoses and detect toxic effects of medications, can also help people with HIV track their health. Peter Anton, MD, is an associate professor with UCLA's Department of Medicine, Center for HIV and Digestive Diseases. He has done extensive research on HIV's effects on the gastrointestinal tract and is internationally recognized as an expert on mucosal immunity and the causation and treatment of HIV-related diarrhea. He analyzes the stool sample results of POZ founder Sean O. Strub.

What This Means

Sean's recent-onset diarrhea prompted a gastrointestinal workup to determine the cause(s). His symptom pattern helped determine appropriate diagnostic measures, and gave a base for comparison so that we can know when, and to what extent, improvement occurs. Sean reported the following:

- For the last four to six weeks, he's had three to six watery or soft bowel movements (BMs) at erratic intervals each day, a significant change from his normal single, formed, regularly occurring BM daily.
- The BMs were not large.
- The stools were at times foul-smelling and appeared greasy.
- There was an element of urgency (the need to go to the bathroom quickly) during the day but he wasn't awakened by this at night.
- Sean had maintained his weight, had a good appetite, and did not have fever, sweats, chills or abdominal pain.
- There were no significant recent changes in Sean's medications and, importantly, he was not taking ritonavir, ddI, nelfinavir or any other medications known to trigger diarrhea.
- He had not been traveling or camping recently—possible sources of exposure to certain

infections.

These symptoms tell us that Sean's diarrhea is chronic—both an increase in the number of BMs and in their liquidity, continuing for more than two weeks—and suggest that more than one cause may be contributing. The presence of urgency points to a colonic (lower bowel) form of diarrhea. However, his smelly, intermittently oily stools suggest fat malabsorption, which results from small-intestine dysfunction. Importantly, Sean's lack of other symptoms and overall continued good health tell us that, whatever the cause(s), they don't appear to be aggressive or seriously threatening.

It is very important to rule out infectious causes, so we obtained analyses of three separate stool samples collected at approximately the same time on three successive days. Because of the expense, managed-care providers often balk at ordering such comprehensive tests. However, the many possibly causes of diarrhea in PWAs, combined with the difficulty inherent in analyzing stool samples, makes the repetition very important for accurate diagnosis. Also important is obtaining sufficiently large samples and quickly delivering them to the lab. Far too often, stool studies are falsely read as negative because they were delivered too late, were inadequate in size, or were not properly analyzed.

In Sean's case, cultures were ordered for parasites and their ova (eggs), usually abbreviated as O/P, and for typical bacterial pathogens (often called culture and sensitivity or C&S). Some labs that process samples from large immunocompromised populations automatically include investigations for Cryptosporidia (the cause of cryptosporidiosis), Microsporidia (the cause of microsporidiosis), Isospora (the cause of isosporiasis), Cyclospora (the cause of cyclosporiasis) and Giardia (a common parasite). Other laboratories don't, so it's important for physicians to specifically request these. Due to Sean's previous use of antibiotics for infections and his long-term use of the prophylactic antibiotics Bactrim (TMP-SMX, for PCP) and azithromycin (Zithromax, for MAC), a culture was also requested Clostridium difficile (a toxin-secreting bacteria which can emerge and cause diarrhea when antibiotics kill off the normal bacteria in the colon).

Sean's samples were negative for OVA AND PARASITES (referring to all the pathogens listed in the unmarked boxes, as well as ISOSPORA BELLI, CRYPROSPORIDUM SPC, CYCLOSPORA SP, MICROSPORIDIA SP and GIARDIA LAMBLIA) and bacterial infections of C. DIFFICILE, SALMONELLA, SHIGELLA, YERSINIA and AEROMONAS SP. Thus, the stool cultures don't indicate that infections are causing Sean's diarrhea. But this is not conclusive. Studies have shown that when endoscopies of the upper intestine or colon are performed (using a tube to view the intestinal lining and take samples) on individuals with negative stool culture results, infectious causes are still identified in 30 to 70 percent of patients. Thus, infections can be dropped lower on the list, but cannot be eliminated as the cause of Sean's symptoms.

One of the three samples showed moderate numbers of PUS CELLS (white blood cells). This indicates inflammation in Sean's intestines, but is not specific. Such inflammation can be caused by many different infections, by HIV itself, and by functional bowel disease that is completely

unrelated to HIV disease. As with the possibility of infections, an endoscopy would be required to further evaluate the cause.

The sample was negative for OCCULT BLOOD. If blood had been present, it would be important to perform an endoscopy to ascertain the cause, which is most often hemorrhoids or a fissure, but is occasionally polyps, cancer of Kaposi's sarcoma.

The presence of intact MUSCLE FIBER (from meat) and UNDIGESTED VEGETABLE CELLS indicates that not all food eaten has been properly digested. This result is often due to a lack of digestive enzymes and inadequate absorption. Thus, such findings are generally thought to be an overall indicator that the person is likely to be malnourished. However, since Sean's weight is stable, they may simply indicate that food is moving through the intestines too quickly, minimizing the time for digestion and absorption. Such rapid transit of food is often seen with functional bowel disease (see below).

Because noninfectious factors are frequent contributors to HIV-related diarrhea—and are often the sole cause(s)—it's important for Sean to consider the following possibilities:

LACTOSE INTOLERANCE—a deficiency of lactase (the enzyme that digests milk sugar) is a common cause of diarrhea (other digestible sugars can also be problematic). Often accompanied by gas, bloating, stomach cramps, nausea, a feeling of an "acid stomach" and/or fatigue, lactase deficiency can be evaluated with a lactose hydrogen breath test or by having patients avoid dairy products for several weeks to see if there's improvement.

FAT MALABSORPTION—a major and frequently undiagnosed diarrhea cause which can result in the type of foul-smelling greasy stools (often floating) that Sean reported. To evaluate the amount of fat not absorbed by his body, a 24-hour stool collection taken on the third day of eating 100 grams of fat per day—the equivalent of two Big Macs and an order of fries—was ordered. Almost all the feet in this diet should be absorbed, leaving only 0–7 grams in the stool collection, but in many PWAs, the fat collected can be as high as 20–40 grams. Unfortunately, Sean's attempts to eat the high-fat diet made him feel too ill to complete the test. Although not conclusive, this reaction might lead us to hypothesize that fat could be contributing to his diarrhea.

BACTERIAL OVERGROWTH—colonic bacteria sometimes travel to the relatively sterile small intestine, triggering diarrhea. A lactulose breathanalyzer test can help diagnose this condition.

FUNCTIONAL BOWEL DISEASE—not uncommon in PWAs, this can cause rapid movement of liquids from the stomach through the intestines, resulting in diarrhea, along with gurgling, bloating, increased gas, feelings of urgency and/or incomplete evacuation with bowel movements. The use of regular and slowly increasing doses of fiber (to help absorb the extra liquid and give more bulk to the stool) can help. Since this might be a factor, I would recommend that Sean consume one teaspoon of soluble fiber nightly, slowly increasing that amount weekly until his bowel frequency has slowed. A diet high in soluble fiber could also help. (See "Slow the Flow," p. 80.)

HIV ITSELF—diarrhea may be secondary to the effects of HIV in the intestines. We often see PWAs' diarrhea improve when their previously high viral loads are reduced to undetectable levels.

For further diagnosis, I would definitely recommend that Sean undergo endoscopic evaluation, at least of the lower colon. A more thorough evaluation to rule out infections would also include an upper endoscopy, something I would more strongly recommend if neither the above suggestions nor time result in improvement.

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