the research question, although admittedly incomplete, will not have to "await another day."

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Atrial Fibrillation During Flexible Sigmoidoscopy

To the Editor: The article by Bruehlman[1] describes the occurrence of atrial fibrillation in a patient undergoing flexible sigmoidoscopy. Although this article is of great interest, the patient does not fit the high-risk criteria for which this procedure should be performed under cardiac monitoring.

Also of interest is why flexible sigmoidoscopy rather than colonoscopy was offered in the face of two episodes of bright red rectal bleeding. Flexible sigmoidoscopy is an acceptable evaluation tool provided it is followed by a barium study. In this patient the question persists as to the origin or cause of the bright red blood coming from the rectum.

That the flexible sigmoidoscope was inserted to a depth of only 50 cm, which indicates visualization of only the sigmoid colon and rectum, is unusual in a young male patient.[2] There could have been a lesion beyond the point of insertion that could have been the origin of the bright red blood.[3]

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References

1. Bruehlman RD. Atrial fibrillation during flexible sigmoidoscopy in a 36-year-old man. J Am Board Fam Pract 1995;8:403-4.
2. Varma JR, Sample L. Colorectal cancer in patients aged less than 40 years. J Am Board Fam Pract 1990;3:549.
3. Varma JR, Mills LR. Colon polyps. J Fam Pract 1992; 35:194-200.

The above letter was referred to the author of the article in question, who offers the following reply.

To the Editor: I agree with Dr. Varma that this 36-year-old man was not at high risk for sustaining a cardiac arrhythmia during sigmoidoscopy. He was placed on a cardiac monitor, not by direct physician order, but as part of a protocol applied to all patients undergoing treatment in the endoscopy suite of the hospital where the procedure was performed.

Passage of small amounts of bright red blood from the rectum is often caused by rectal conditions, such as hemorrhoids, fissures, or proctitis,[1] all of which can be diagnosed by using the fiber-optic sigmoidoscope. The patient had no evidence of anemia or fecal occult blood, making questionable the more extensive bowel preparation and expense of colonoscopy. To date, he has reported no further episodes of rectal bleeding. Given the complication of atrial fibrillation during sigmoidoscopy, further lower gastrointestinal imaging would seem to be risky business.

A future dilemma: in view of his family history (both grandfathers had colon cancer), should screening sigmoidoscopy or colonoscopy be recommended as he ages?

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Serotonin Syndrome Cause and Treatment

To the Editor: I am delighted to see an article that details the potentially fatal interaction between selegiline (Eldepryl, also known generically outside the United States as deprenyl) and selective serotonin reuptake inhibitors.[1] Serotonin syndrome is a purely iatrogenic disorder that physicians who prescribe serotonergic drugs need to both recognize and prevent. There are, however, a few erroneous statements and conclusions in Dr. Weiss' otherwise excellent case report.

First, the article states that serotonin syndrome "results from a combination of MAOIs (monoamine oxidase inhibitors) with selective serotonin reuptake inhibitors (SSRIs), such as L-tryptophan, clomipramine, fluoxetine, and sertraline." Neither L-tryptophan nor clomipramine is an SSRI. L-Tryptophan is the precursor to endogenous serotonin production. It is not currently available as a medication in the United States because of an association with eosinophilia-myalgia syndrome. Clomipramine is a tricyclic antidepressant with potent serotonin reuptake inhibition, but it is not a selective serotonin reuptake inhibitor. Nevertheless, Dr. Weiss is correct that both L-tryptophan and clomipramine can cause serotonin syndrome in combination with MAOIs.

Serotonin syndrome causes are more complex than just an interaction between MAOIs and SSRIs, although these offenders are probably the most common. I surmise from numerous case reports that interfering simultaneously with two separate mechanisms of serotonergic neurotransmission can raise serotonin levels in the central nervous system to the point that serotonin syndrome results.[2,3] Any combination of two drugs from each of the following six classes could cause serotonin syndrome:

1. L-Tryptophan (which raises serotonin production)
2. Serotonin reuptake pump inhibitors, such as SSRIs (fluoxetine [Prozac], fluvoxamine [Luvox], paroxetine [Paxil], and sertraline [Zoloft]), tricyclic antidepressants (amitriptyline, imipramine, etc.), dextromethorphan,[3] and meperidine[3] (Demerol)
3. MAOIs, such as selegiline (Eldepryl), phenelzine (Nardil) and tranylcypromine (Parnate)
4. Amphetamines (which stimulate the release of serotonin as well as norepinephrine)
5. Direct postsynaptic serotonin agonists, such as buspirone (BuSpar)

6. Lithium (which stimulates serotonergic neurotransmission by unclear mechanisms)

It is uncommon for serotonin syndrome to result from a combination of drugs that have the same mechanism of action, such as an SSRI plus meperidine.

Second, the patient's condition in the case report was treated by stopping both medications and providing supportive care. A growing body of literature suggests the use of cyproheptadine (Periactin) as a direct antagonist of the high serotonin levels in the central nervous system that presumably cause the problem.[4] Cyproheptadine is a nonspecific postsynaptic serotonin blocker. A patient I cared for who had serotonin syndrome responded dramatically to cyproheptadine alone.[5]

The case report literature suggests using diazepam to reduce the muscular rigidity that creates fever and rhabdomyolysis and propranolol to treat serotonin syndrome, but for unclear reasons. It seems more sensible to use cyproheptadine to get to the root of the problem in the central nervous system. Methysergide (Sansert) is another nonspecific postsynaptic serotonin blocker. It might also be used to treat serotonin syndrome, but experience with it is limited.

Third, it is unnecessary to stop both offending medications. Stopping one is all that is necessary to prevent subsequent problems with serotonin syndrome. In the acute situation, this medication should be the one with the shortest half-life. It takes nearly 2 weeks to restore monoamine oxidase levels in the central nervous system to normal after stopping selegiline, an irreversible MAOI.

Fourth, the conclusion that we should use the "older generation of antidepressants" to treat depression in patients with Parkinson's disease on selegiline is unfounded. All tricyclic antidepressants create some degree of serotonin reuptake inhibition and are likely to result in serotonin syndrome when taken with selegiline. The only antidepressant currently available that should be safe when taken with selegiline is bupropion (Wellbutrin), because it does not affect serotonergic neurotransmission.

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