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Adverse Side Effects from Medications Used to Treat Enlarged Prostate
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The US Food and Drug Administration approved finasteride 5 mg for the treatment of benign prostatic enlargement (BPE) in 1992, finasteride 1mg for the treatment of male pattern hair loss in 1997, and dutasteride 0.5 mg for BPE in 2001.

Today in the US, 14 million patients take finasteride or dutasteride to treat lower urinary tract symptoms (LUTS) from BPE.

But over the past decade, researchers in the US, Europe and Asia have concluded that finasteride and dutasteride can cause severe damage to the male body. That in turn has led them to continue studying this condition, known as post-finasteride syndrome

The Post-Finasteride Syndrome Foundation was established in July 2012 as a nonprofit organization, with private grants from families in the U.S. and abroad. The foundation is dedicated to funding research on the characterization, underlying biologic mechanisms and treatments of post-finasteride syndrome (PFS). A secondary goal is to increase global public awareness of the condition. Often life-altering, PFS is characterized by devastating sexual, neurological, and physical side effects that persist in men who have taken the 5 α -reductase type II enzyme inhibitor, finasteride.

I have conducted three studies on the negative physical impact of finasteride and dutasteride, which have been presented at the Urology & Sexology Congress. One of those studies, titled, "Sexual and nonsexual problems stemming from finasteride use for hair loss in young men," was also presented at the American Society for Men's Health annual meeting in 2014 in Arizona

For that study we enrolled 35 patients, ages 25 to 50 years old. The mean length of finasteride use, was 24 months. I concluded that "Persistent adverse effects development (PAEsD) in young men include erectile dysfunction, low libido, lack of orgasm and depression. Finasteride use in young males is a potential risk to their sexual health. Physicians treating male pattern hair loss (MPHL) should discuss with patients the potential risks of PAEsD of finasteride. Erectile dysfunction may be related to low levels of Dihydrotestosterone (DHT) and lower levels of several neurosteroids. I propose that the American Dermatologists Society remove from their guidelines "The utilization of finasteride for MPHL."

Reported persistent side effects of finasteride and dutasteride include:

- Loss of libido
- Erectile dysfunction
- Depression
- Self-harm
- Suicidal ideation

- Anxiety
- Panic attacks
- Osteoporosis
- Peripheral nervous system damage
- Peyronie’s disease
- Penile shrinkage
- Gynecomastia
- Muscle atrophy
- Cognitive impairment
- Insomnia
- Severely dry skin
- Tinnitus

These damaging side effects can last for years after stopping the drugs.

Finasteride and dutasteride irreversibly bind to the enzyme 5 α -reductase (5ARI), turning the enzyme off and causing DHT levels to plummet to nearly zero. The 5ARIs also induce a global defect in C19 and C21 5 α -metabolism, inhibiting 5 α -reduction of progesterone, androstenedione, epitestosterone, cortisol, aldosterone, corticosterone and deoxycorticosterone, thereby reducing levels of brain neurosteroids that increase libido and sexual arousal.

Since finasteride and dutasteride inhibit testosterone conversion into DHT, which is responsible for most androgen activity, it is plausible that prolonged finasteride and/or dutasteride use in predisposed individuals could stimulate the effects of aging in young men. These steroids have been shown to influence brain function, and their presence may explain the profound psychological changes such as depression, self-harm and suicidality that had been associated with use of the drugs.

I used the term “impotence” for the database searches because this is the target term to which synonyms are mapped in international classification of diseases codes (ICD-9). The term “impotence” is now deprecated in medical parlance and has been replaced with the term “erectile dysfunction.” Impotence caused by abnormal somatosensory evoked potentials (SSEP) of the pudendal nerve. Abnormal SSEP findings were observed in PFS patients with severe erectile dysfunction (ED).

The pudendal nerve is the major nerve supplying the genitals, which is critical for peripheral neurogenic control erection. Some PFS patients with ED, according to a 2017 study out of the University of Milano (Neuroactive Steroid Levels and Psychiatric and Andrological Features in Post-Finasteride Patients) suffer from damage to the peripheral nervous system, so-called “peripheral neuropathy of the pudendal nerve.”

Additionally, 50 percent of the PFS patients were diagnosed with major depression based on the results from validated questionnaires (MINI/BOI/BAI). Such depression represents the first confirmation, which suggested that men who experience persisted sexual dysfunction after discontinuing finasteride/dutasteride have “neurobiological abnormalities.”

In a 2016 study published by the Journal of Sexual Medicine, Chinese researchers analyzed seventeen studies on 5ARIs and sexual function. Cumulatively, the studies involved almost 17,500 men with an average age of 60 years. About 55 percent of the men took 5ARIs (finasteride/dutasteride); the rest took a placebo.

The scientists discovered that sexual problems were more common in men who took 5ARIs. The dose of medication and length of time were important factors. Men who took 5ARIs for over a year were more likely to have sexual dysfunction. Also, the impotence stronger in older men than in younger men. The likelihood of impotence generally increases as a man ages. The larger study by number of patients (691,268) showed that of those treated with finasteride/dutasteride, 89.5 percent suffered from impotence.

Prof. Irwin Goldstein, MD, editor-in-chief of the Journal of Sexual Medicine, confirmed, “We are becoming more and more aware of persistent sexual health problems occurring as a result of the use of 5 α -reductase inhibitors, finasteride, and dutasteride, in a subset of patients. What is even more alarming is that in addition to persistent sexual issues, there are persistent central cognitive issues and concerns of persistent depression.”

We often prescribe medications and treatments in the hope of improving disease outcomes and enhancing quality of life. While we also are aware of potential adverse events, we sometimes either underemphasize them or may not appreciate the impact they have on our patients. For example, sexual dysfunction and, more specifically, reduced and/or anejaculation after some treatments for benign prostatic hyperplasia tend to be written off as a byproduct of therapy. Yet they can have a dramatic impact on our patients.

What is our take-home message? Medications have a wide range of effects in patients, hopefully mostly good. We need to be more sensitive and aware of the impact that chronic medications can have in our patients. Finally, we will need to be even more vigilant and counsel our patients accordingly.

I speak from personal experience. In 2010, a sonogram of my prostate showed enlargement, so I began using dutasteride to shrink the gland. Before taking the 5ARI, I was quite potent from a sexual point of view. But after being on the drug for just a week, I experienced severe ED. Moreover, I suffered from trembling, nerve twitches, anorexia, insomnia and other symptoms.

So I immediately quit dutasteride. Within a week, I had stabilized—and never used it again. And I never again prescribed the drug to my patients who were sexually active. Nonetheless, in my own practice I have to date identified 137 5ARI patients who suffer from depression, self-harm and suicidal ideation, some of whom went on to attempt suicide.

The Albanian National Agency for Drugs and Medical Devices needs to issue a drug-safety warning that finasteride and dutasteride can cause impotence and depression, as well as precipitate self-harm, suicidal behavior, and/or suicide.

Among other public-safety measures I propose are:

- Dermatological Societies need to remove from the guidelines: “The utilization of finasteride for male pattern hair loss.”
- Urological Societies need to remove from the guidelines: “The use of finasteride and dutasteride for lower urinary tract symptoms/benign prostatic enlargement.”
- When sexologists consult patients with erectile dysfunction, this question should be requisite: “Are you currently being treated with, or have you ever been treated with, 5 α -reductase inhibitors?”

- When psychiatrists consult patients suffering from depression, and/or who have engaged in self-harm or attempted suicide, they need to ask members of the patient's family this question: "Is he currently being treated with, or has he ever been treated with, 5 α -reductase inhibitors?"
- Each time members of the law-enforcement community investigate a male suicide, they need to ask members of the patient's family this question: "Had he ever been treated with 5 α -reductase inhibitors?"

We must strive until our last breath to help ensure that no man on Earth suffers needlessly from PFS.

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