



Worst Pills, Best Pills News

Your expert, independent second opinion for prescription drug information

SIDNEY M. WOLFE, M.D., EDITOR

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Drug-Induced Parkinsonism

In last month's "From the Editor" column, we referred to a recent study finding that more than 1 out of every 10 people who went to a Parkinson's disease center had been found to have drug-induced Parkinsonism. These people were misdiagnosed as having the more common illness, Parkinson's disease, which is irreversible and has unknown causes.

The column stated that in the October issue of *Worst Pills, Best Pills News* there would be a longer discussion about this serious, preventable problem, including a list of drugs known to cause Parkinsonism.

Before getting to the list of 49 drugs that can cause Parkinsonism (see Table 2 on page 4), here are a few explanations and patient examples:

Table 1, adapted from an article in *Postgraduate Medicine* in 2009, points out some of the important differences between Parkinson's disease and drug-induced Parkinsonism.

In a recent study, published this year in *Clinical Neurology and Neurosurgery*, researchers carefully examined 1,528 people with symptoms of Parkinsonism and found that 7.9 percent (120 patients) had clear, unequivocal evidence of drug-induced Parkinsonism. To qualify for this group, the second largest in their study, (outranked only by Parkinson's disease), the patients had to meet all of the following three criteria:

- Occurrence of Parkinsonism while the patients were being treated with



drugs known to be potential inducers of this syndrome

- Absence of the symptoms of Parkinsonism before the introduction of the causative agents
- Clinical improvement within six months after drug withdrawal

Thus, the good news is that drug-induced Parkinsonism is reversible. The bad news, however, is that too many doctors do not know about the diseases' differences, are inadequately aware of drug-induced Parkinsonism and therefore do not get a careful history from the patient about what drugs they started before the onset. Doctors then mistake drug-induced

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Parkinsonism for the more commonly occurring Parkinson's disease.

Unfortunately, this means that instead of suspecting a drug-induced origin and stopping the offending drug, doctors may actually mistakenly treat drug-induced Parkinsonism with another drug — as though they were treating Parkinson's disease — while leaving the patient on the drug that

See Parkinsonism on page 3

Table 1. Drug-Induced Parkinsonism vs. Parkinson's Disease

Drug-Induced Parkinsonism	Parkinson's Disease
Symptoms typically symmetrical (same on left and right sides)	Symptoms typically asymmetrical
Usually reversible once offending drug is stopped	Chronic and progressive
Tremor commonly postural: the tremor occurs when you try to hold your body motionless, such as extending your arm horizontally, pointing at objects, sitting erect without support of the upper body	Tremor commonly when resting, inactive
Subacute onset after starting the drug	Slow, progressive course
Not responsive to anti-Parkinson's disease drug treatment	Excellent and sustained response to anti-Parkinson's disease drug treatment
Caused by drug(s)	No known cause
No degeneration in the brain	Brain degeneration in specific area

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caused the illness in the first place.

Hard to believe? Here is a real-life example:

Larry was an otherwise healthy 58-year-old man with diarrhea, which was believed to be due to irritable bowel syndrome. He was given trifluoperazine (STELAZINE), a powerful antipsychotic, to calm down his intestinal tract. STELAZINE is not even approved for treating such medical problems, and he was not psychotic. Six months after starting STELAZINE, Larry developed severe Parkinsonism, a neurological condition characterized by tremors, limited movements, rigidity and postural instability (see postural tremor in Table 1). To correct this, Larry was started on L-dopa (also known as levodopa [LARODOPA]), a drug used to treat Parkinson's disease. Presumably, the doctor did not realize the Parkinsonism was drug-induced, and the STELAZINE was continued. For seven years, Larry took both drugs until seeing a Parkinson's specialist. The specialist recognized the real cause of his problem, stopped the STELAZINE and slowly withdrew the L-dopa over a six-month period. Larry's severe, disabling Parkinsonism cleared completely.

The same Parkinson's specialist who "cured" Larry of his drug-induced Parkinsonism saw, in just three years, 38 other patients with drug-induced Parkinsonism and 28 with drug-induced tardive dyskinesia, a syndrome of involuntary move-

ments also often caused by drugs.

It is increasingly clear that drug-induced Parkinsonism is a well-documented disease entity.

Other important points:

- Risk factors for drug-induced Parkinsonism include increasing age and the fact that older people may be especially sensitive to drug-induced Parkinsonism from antipsychotic drugs. Also, almost 100 percent of people with HIV infection will get drug-induced Parkinsonism if given antipsychotic drugs.
- Many primary-care physicians do not realize that the commonly used antacid and anti-nausea drug metoclopramide (REGLAN) and anti-nausea drug prochlorperazine (COMPAZINE) are major causes of drug-induced Parkinsonism. The former is more likely to cause drug-induced Parkinsonism in patients younger than 50 whereas the latter causes it more in older people. However, both have caused drug-induced Parkinsonism in people young and old.
- The duration of treatment with the causative drug before drug-induced Parkinsonism begins can range from a few days to more than six months.

What You Can Do

If you or someone you know has been diagnosed with and treated for Parkinson's disease, check Table 1, which shows the distinctions be-

tween drug-induced Parkinsonism and Parkinson's disease. The list may be consulted as a first approximation to determine whether the disease was preventable based on the differences between Parkinsonism and Parkinson's disease. Particular attention needs to be paid to what drugs, other than those being used to treat the alleged Parkinson's disease, are being used and whether the onset of the disease followed the initiation of any of these drugs. Then, consult the list of 49 drugs in Table 2 on page 4 to see the most likely candidates.

Many of the drugs listed in Table 2 are grossly overprescribed or misprescribed. For example, an increasing proportion of drugs used to treat psychoses such as schizophrenia are unfortunately and dangerously prescribed to people who do not even have schizophrenia (especially older adults, like Larry in the aforementioned example). Other common causes of drug-induced Parkinsonism include drugs such as metoclopramide or prochlorperazine, which are often prescribed when safer drugs could be used or dietary changes might suffice.

Another important thing to know: the authors of the first-mentioned study stated, concerning COMPAZINE, that it is mainly used for "trivial indications and for which alternatives are readily available." In their study, the drug responsible for one-third of the cases of drug-induced Parkinsonism was prochlorperazine (COMPAZINE). ♦

choose to hide the undesirable effects of drugs from their patients to avoid jeopardizing the patient's compliance. This situation involves comparing two logics: ethics of care versus ethics of information. She ends by stating, "The way in which a society manages the issue of drug safety does not depend solely on pharmacovigi-

lance data, but also on symbolic logics and cultural representations, even if these are outside more traditional medical rationality."

In order for patients to be more involved in decisions concerning the safety of the drugs they are taking or thinking of using, there needs to be much more information, coming not from biased and frequently inaccurate drug ads, but from objective sources.

The primary purpose of *Worst Pills, Best Pills News* is to keep you as up-to-date as possible regarding evolving drug benefits and safety concerns. We believe you should be well-informed when deciding what you swallow. In an increasing number of instances we have warned our readers not to use certain drugs which, years later, were eventually removed from the market. ♦

Table 2. Drugs Known to Cause Parkinsonism

Generic Name	Brand Name	Drug Class
amitriptyline	ELAVIL*	antidepressant
amitriptyline and chlordiazepoxide	LIMBITROL*	antipsychotic, antidepressant
amitriptyline and perphenazine	TRIAVIL*	antipsychotic, antidepressant
amlodipine	NORVASC	antihypertensive
amoxapine	ASENDIN	antidepressant
aripiprazole	ABILIFY**	antipsychotic
bupropion	WELLBUTRIN**	antidepressant
bupropion	ZYBAN**	smoking cessation
buspiron	BUSPAR**	antipsychotic
chlorpromazine	THORAZINE**	antipsychotic
cyclosporine	NEORAL, SANDIMMUNE	immunosuppressant
deserpidine and methylothiazide	ENDURONYL	antihypertensive
desipramine	NORPRAMIN	antidepressant
diltiazem	CARDIZEM, CARDIZEM CD, DILACOR XR, TIAZAC	antihypertensive
doxepin	SINEQUAN**	antidepressant
fluoxetine	PROZAC, SERAFEM**	antidepressant
fluphenazine	PROLIXIN**	antipsychotic
fluvoxamine	LUVOX**	antidepressant
haloperidol	HALDOL**	antipsychotic
imipramine	TOFRANIL, TOFRANIL PM**	antidepressant
kava-kava		dietary supplement
levothyroxine	LEVO-T, LEVOXYL, NOVOTHYROX, SYNTHROID, THYRO-TABS, UNITHROID	thyroid hormone
lithium	ESKALITH, LITHOBID, LITHONATE**	drug for mania
maprotiline	LUDIOMIL**	antidepressant
medroxyprogesterone	DEPO-PROVERA	contraceptive
methyldopa	ALDOMET	central antiadrenergic agent
metoclopramide	REGLAN**	drug for nausea

Generic Name	Brand Name	Drug Class
nortriptylin	AVENTYL, PAMELOR	antidepressant
octreotide	SANDOSTATIN	hormone, drug for cancer
olanzapine	ZYPREXA**	antipsychotic
paroxetine	PAXIL, PEXEVA**	antidepressant
pregabalin	LYRICA†(2012)	drug for epilepsy
prochlorperazine	COMPazine**	drug for nausea
reserpine	SERPASIL	antipsychotic, antihypertensive
reserpine and chlorothiazide	CHLOROSERPINE, DIUPRES	antihypertensive
reserpine and chlorthalidone	DEMI-REGROTON, REGROTON	antihypertensive
reserpine and hydralazine and hydrochlorothiazide	SER-AP-ES	antihypertensive
reserpine and hydrochlorothiazide	HYDROPRES, HYDROSERPINE	antihypertensive
reserpine and hydroflumethiazide	SALUTENSIN	antihypertensive
risperidone	RISPERDAL**	antipsychotic
sertraline	ZOLOFT**	antidepressant
tamoxifen	NOLVADEX**	antiestrogen
thalidomide	THALOMID	immunomodulatory agent
thioridazine	MELLARIL*	antipsychotic
thiothixene	NAVANE**	antipsychotic
trazodone	DESYREL**	antidepressant
trifluoperazine	STELAZINE**	antipsychotic
valproate	DEPAKENE	drug for epilepsy, drug for mania
verapamil	CALAN SR, CALAN, COVERA-HS, ISOPTIN SR, ISOPTIN, VERELAN	antihypertensive
ziprasidone	GEODON, ZELDOX*	antipsychotic

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