The Trouble with Well Intended Polypharmacy in the Elderly

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Story from the front lines:

An 83 year old woman with history of atrial fibrillation, prior admissions for A fib w/ RVR due to medication nonadherence, HFrEF, CAD, and mild cognitive impairment, was admitted from the ED with A fib w/ RVR. She was restarted on her home medications (metoprolol and diltiazem) and was discharged with new prescriptions, including metoprolol XL 100mg tabs, with instructions to take ½ tab nightly, as records from her outside pharmacy records showed no refills for several months. Home health services for medication management were to begin 2 days after discharge, as she was discharged over the weekend.

Less than two days after discharge, the patient presented to the ED with symptomatic bradycardia and hypotension after a metoprolol overdose. Pt had reported taking extra ½ tab of metoprolol in the morning, doubling the prescribed dose. Pt was admitted to the ICU and put on a glucagon drip. Pt was transitioned back to oral medications and was discharged on metoprolol and digoxin.

During hospitalization, the patient expressed a desire to take fewer medications. She was currently taking at least 11 medications (metoprolol, digoxin, apixaban, atorvastatin, lisinopril, furosemide, ibandronate, loratadine, ranitidine, calcium carbonate, multivitamin). She found her medication regimen confusing, burdensome, and expensive. The patient and her family desired to simplify her medication regimen while continuing medications that would keep the patient out of the hospital (she was admitted 6 times in 2015 and 3 times to date in 2016). The patient's ACEi, statin, and multivitamin were discontinued at the family's request prior to discharge.

Teachable Moment:

In this case, all the medications were prescribed according to practice guidelines. The harm was not overtesting or unnecessary care but misdiagnosis of patient preferences, leading to polypharmacy, decreased adherence, and patient harm.[i]

Polypharmacy, defined as excessive or unnecessary drug use, is a well-known problem in elderly patients. Nearly 20% of community-dwelling adults over 65 take 10 or more medications, a number that quickly rises when prescribing for common comorbidities seen in the elderly.[ii] As practitioners are aware, adding medications carries risk. Polypharmacy is associated with increases in medication non-adherence, adverse drug events and financial burdens on older patients.[iii] The problem is exacerbated, according to studies, for patients taking more than 9 medications or with multiple prescribers, as in the case above.[ii]

Hospital discharge is an opportune time to address polypharmacy. A study conducted in elderly VA patients found that 44% had at least one unnecessary drug at discharge, with 18% having two or more unnecessary medications. While high quality studies to address the effects of discontinuing specific types of medications are not always available, there are strategies to safely deprescribe medications for elderly patients.

As physicians, we must not just prescribe the right medications, but tailor medication regimens to each pt's individual circumstances, including comorbidities, patient preferences, and goals of care. The first step in addressing polypharmacy in the elderly is to determine the

patient's goals for medication. For example, in this vignette, the patient desired a regimen that minimized pill burden, cost less, and kept her comfortable and out of the hospital. One method to identify potential medication over or underuse is to match the patient's medication to their medical conditions[iii]. Medications without a clear indication can be discontinued. Next, medications with limited or no proven benefit or with high unfavorable risk profile should be stopped or substituted for a different medication. In the vignette, the patient was on an H2 blocker but had no history of GERD. Thus, ranitidine could be discontinued and monitoring for symptoms. She was also on an expensive multivitamin, which provided no additional benefit. Stopping the multivitamin would be a reasonable option for. While attempting to avoid polypharmacy, it is important to remember that potentially beneficial medications are often underused, such as antidepressants for major depression or laxatives for constipation.[iii]

After medication regimens are simplified, the patient must adhere to the new regimen. Examples of barriers in this case include forgetting medications/limited organization skills, belief that pt is on too many medications/not understanding indications for medications, and cost of medications. To address these barriers, first we could deprescribe unnecessary medications. We could simplify her regimen by changing all of her medications to once a day dosing, ,e. g., switching to metoprolol succinate from tartrate. Pt's family was encouraged to be involved with her care and a home health nurse was sent to help the patient manage her medications. Lastly, all of her medications were changed to generic brands to lower cost.

Polypharmacy is well-known problem in the elderly. Physicians must consider the dangers of polypharmacy at the time of discharge. With simple and effective methods, clinicians can decrease polypharmacy and improve patient outcomes.

References

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