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Good Drug – Bad Drug

Every few years I write an article about the patient I know best - my mom. As I've said in the past, her age is not to be published, but if she found her way into a nursing home, she would fit comfortably into the demographic.

Mom has a typical set of diagnoses, including high BP, atrial fib and osteoporosis, and she is on the frail side (though still fairly active), with a BMI of 17 Kg/m² (still looking to make the cover of Vogue, in spite of everyone's protestations that she eat more). Unfortunately, about six weeks ago she developed pneumonia. She was weak and febrile and her physician sent her to hospital for further assessment.

A chest X-ray confirmed the diagnosis of pneumonia. She was given the option of remaining in hospital or heading home with an Rx for Clavulin® 875 BID. She opted for home and took her first dose the same night. The next morning she was much improved and we all breathed a sigh of relief. As the day

wore on, however, our optimism diminished. Within three or four days she was worse off than before the original hospital visit, and now was nauseous and dealing with diarrhea (classic Clavulin®).

Back to the hospital we went, and azithromycin (Zithromax®) was started i.v. She was put on oxygen at 3 litres per minute and was responding. Of course, chest X-rays take several weeks to clear, so there was not so much to learn from these. She continued to feel very weak though, and her appetite remained poor. The morning bloodwork showed an alanine aminotransferase (ALT – a liver enzyme) level above 1,300! This stratospheric level was more than 20 times higher than the normal maximum.

So, the azithromycin (or the Clavulin or the amiodarone – it was increased on admission due to a flare up of her atrial fib) had injured her liver. The amiodarone was stopped and the azithromycin had just finished. Unfortunately, due to its 3-day half-life, it would not leave her system for a week (likely longer in the presence of liver damage). The internist decided to start an antioxidant, N-Acetylcysteine (NAC) QID, i.v. to help the liver recover.

The ALT came down slowly over the next week. That was

good; however, she was given i.v. fluids concurrently and developed pulmonary edema and significant swelling of the legs. Her poor nutritional status (serum albumin of 24!) made it nearly impossible for her to pull the excess fluid back into her bloodstream.

Lasix i.v. was ordered to clear the fluid. You can guess what happened next. Her potassium plunged to 3.2 and she was put on K-Dur (KCl) 40mEq BID. The potassium normalized, but the pulmonary edema, though improved, still remained. Lasix, K-Dur and O₂ were stopped and she was discharged home.

A little bit of p.o. Lasix® and a rediscovery of food (we finally convinced her to eat) and the legs and lungs have dried out. My mom's strength is slowly coming back and it looks like she will be OK. There is so much to learn from this experience, however. We must respect all drugs. They can do great things, but also, may cause considerable harm.

Opiates and Benzos

The FDA issued a strong warning last month that opioids and benzodiazepines should not be used together. There is a major risk of slowed breathing and/or excessive sedation. If the combination is absolutely necessary, dosage and duration of treatment should be limited.

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