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Inhalers and Retention

Anticholinergic drugs, of which there are many, are much maligned because they frequently cause confusion, constipation, dry mouth, blurred vision, etc. Two prime examples are Ditropan® and Detrol. Blocking acetylcholine in the smooth muscle surrounding the bladder causes it to relax so urine is retained longer. At the same time, the associated side effects can almost negate those benefits.

Atrovent® (ipratropium) and Spiriva® (tiotropium) are inhaled anticholinergic drugs used in the treatment of COPD. They work by dilating the airways in the lungs. Though inhaled, their anticholinergic activity can cause problems elsewhere in the body. When they act on the bladder, the effect mirrors that of Ditropan® and Detrol®. Those with bladder emptying problems can be pushed into acute urinary retention (AUR), an emergency situation.

A six-year Ontario study, published in the *Archives of Internal Medicine*, compared over 500,000 elderly COPD

patients to a group of controls. There were over 11,000 cases of AUR. Men and women taking Atrovent® or Spiriva® were significantly more likely to have an episode of AUR than those who were not. AUR was most common in those with BPH. When treating men with BPH, or those with past episodes of AUR, consider long-acting β -agonists (Serevent®/ Advair®, Oxeze®/Symbicort®) before the anticholinergic inhalers.

OJ Found Guilty - Again

Fear of grapefruit juice has long since chased this nutritious beverage from most of our facilities. Now orange and apple juices have also been branded troublemakers.

The three fruit juices contain chemicals which inhibit something called OATP, a peptide (protein fragment) which helps transport drugs into cells. This results in decreased absorption and serum levels of a limited number of medications. The interaction is seen with as little as 200 ml of juice.

The principle LTC drugs affected are Rasilez®, atenolol and ciprofloxacin. Their absorption is reduced by 60%, 40% and 20% respectively. Fortunately, this interaction only lasts for about four hours. Grapefruit juice interactions are more complex and long-lasting, potentially leading to

toxic levels of a large number of drugs.

As time passes, we may hear of other drugs affected by orange and apple juices. The best approach, if possible, is to administer all medications with water. Drugs which are GI irritants are a possible exception. If not given with food they should be offered with milk, to provide protection for the stomach.

Statins for Diabetics

Back in 2006, the SPARCL (Stroke Prevention by Aggressive Reduction of Cholesterol Levels) trial showed that patients who had suffered a recent stroke or TIA were less likely to have a second stroke if placed on a high dose (80mg) of Lipitor®.

The trial results have been reexamined, focusing on the subgroup of Type 2 Diabetic patients. The diabetics were far more likely than non-diabetics to have a second stroke and Lipitor® worked equally well in both groups. Lipitor® showed the greatest benefit in reducing need for revascularization procedures (coronary bypass grafting and balloon angiography). Those in the placebo group were almost three times more likely to require a procedure to open or bypass clogged coronary vessels. Diabetes is ultimately a vascular disease that responds well to statins.