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Photo elements courtesy Vetmedin and Royal Canin

Problems with PILLS

By Dr. Susan Little

While human beings are familiar with the need to have a drink of water after taking pills, to help ensure the medication makes its way to our stomach quickly. While this is common practice for us, it has not been considered necessary for cats to also have a drink of water after taking a pill—until recently.

Doxycycline is an antibiotic commonly used in cats to treat certain infections. Writing in a veterinary journal in 2000, Dr. David Twedt and his colleagues at Colorado State University (CSU) reported on three cases of doxycycline tablet-induced esophagitis and stricture formation in cats. They suspected the doxycycline tablets were retained in the esophagus of the cats for a long enough period to allow severe inflammation to occur, resulting in scar formation. This phenomenon has also been well-documented in people, most commonly with doxycycline and non-steroidal anti-inflammatory drugs.



Scarring in the esophagus can cause a stricture, making it hard for the cat to swallow food. Affected cats are taken to the veterinarian within one to two weeks for difficulty with swallowing and/or regurgitation.

The diagnosis of an esophageal stricture is made with contrast X-rays using barium or with an examination of the esophagus by endoscope. In severely affected cats, attempts must be made to open the stricture with balloon dilatation, also using an endoscope. In rare cases, risky surgical repair of the esophagus is needed.

In 2000, the Winn Feline Foundation granted funding to Twedt and his colleagues to study how tablets and capsules are swallowed in cats and to determine if water should be administered after these medications. The investigators used an imaging technique called fluoroscopy, which uses X-rays to generate live images. With the fluoroscope, it became possible to watch and calculate how long a tablet or capsule was retained in a cat's esophagus before it reached the stomach.

The cats in the study were 30 normal, healthy animals owned by the faculty, staff and students of CSU's Veterinary Teaching Hospital. Harmless barium tablets and capsules were used, since they would be easy to see using fluoroscopy.

After each tablet or capsule was administered, its location in the cat's esophagus was noted at set intervals, for up to five minutes. Then, the study was repeated in each cat, but with the administration of 6 ml of water after the tablet or capsule was given.

When tablets or capsules were given without any water, only 36.7 per cent of them entered the stomach by the five-minute point. When they were followed by water, on the other hand, 100 per cent entered the stomach within 60 seconds.

The researchers concluded that administering 6 ml of water after tablets or capsules would greatly decrease the risk of esophagitis and stricture formation and ensure all of the medication entered the stomach, which was essential for adequate dosing. (Most household teaspoons hold about 5 ml of water.)

Another group of researchers—Dr. Brenda Griffin and her colleagues at Alabama's Auburn University—carried out a similar study and reported more findings in 2003. These researchers found dry tablets given to cats could stay in the esophagus for over 10 minutes before reaching the stomach. If a medication was irritating to the esophagus, severe damage could result; but if a smear of butter or a spreadable food supplement was applied to the cat's nose after the tablet was given, the tablet reached the stomach within one minute, as the cat licked and swallowed the substance.

So, many veterinarians are now recommending owners give a teaspoon of water orally or a smear of butter or something similar (cream cheese or paté works, too) on the nose after giving a cat a pill.

A veterinarian may provide the owner with a small syringe to administer the water. This avoids irritation of the esophagus, which for the cat can feel like severe heartburn, but also ensures the medication reaches the stomach quickly, so it can be



Cats, like humans, should have a drink of water after taking pills, as it helps ensure the medication quickly reaches the stomach.

“Lucky,” photo by Michelle Renwick, Bradford, Ont.

absorbed properly. Indeed, very irritating medications, such as doxycycline, may be best administered to cats in a liquid form when possible to eliminate the risk of esophagitis.

Giving oral medications to cats is not always easy, but knowing how to do it can make a big difference. Owners should make sure to provide water afterwards or a smear of some treat, such as butter or cream cheese. This helps ensure the medication will work correctly and saves the cat from discomfort or potentially very serious consequences. 🐾

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Glossary of Terms

Barium

A mixture of water and barium sulphate that is opaque to X-rays. It is given to patients before a radiological examination is performed.

Dilatation

The expansion or widening of a cavity or hollow organ.

Endoscope

A flexible medical instrument comprising illuminated optical tubes, designed to help view the body's internal cavities or hollow organs, *e.g.* the esophagus.

Esophagitis

Severe inflammation of the esophagus.

Fluoroscope

A medical instrument with a fluorescent screen that can display X-ray images without needing to take and develop X-ray photographs.

Stricture

A ring-like constriction of the esophagus.