

# CALVIN AND HIS CO-MORBIDITIES

When a patient has more than one serious disease at the same time, we call them co-morbidities. One of the most challenging parts of our job as doctors is to develop a treatment plan that will address multiple problems without making any of them worse while avoiding side effects from the multiple medications that might be needed. This can be a real balancing act.

A case in point is a tiny little Yorkshire terrier dog named Calvin. Calvin normally weighs in at only about 4 lb., so he is one of our smallest canine patients. Calvin has arthritis in his stifle (knee) joints because of an orthopedic problem called luxating patellas that we see frequently in small dogs. Patella is the medical term for the kneecap. Calvin's patellas don't stay in position as the stifle joint flexes. Instead, they slide off to the side. Repeated slipping in and out of place wears the cartilage off the underside of the patella and the parts of the knee it rubs on, which causes arthritis. Calvin takes an NSAID drug for his sore knees.



Calvin has developed two additional problems over the past couple of years. He has had on and off episodes of vomiting and diarrhea, along with a poor appetite. He also recently developed bladder stones, which needed to be surgically removed. Since we were doing surgery anyway, we took the opportunity to biopsy his stomach and intestines at the same time, in order to diagnosis his digestive system symptoms. His biopsies showed a form of inflammatory bowel disease (IBD) that often involves food allergy.

To prevent bladder stones forming again in the future we need to put Calvin on a special diet. For the IBD, we need a hydrolyzed hypoallergenic diet. Royal Canin makes a hydrolyzed hypoallergenic diet that also helps to prevent bladder stones, which is great – but Calvin won't eat it. He will eat the Royal Canin canned *cat* food diet for bladder stone prevention but that won't help his intestinal tract. We aren't sure how well it will work for the bladder stones either, since Calvin is not a cat and his metabolism won't be quite the same.

Dr. Boss thinks the only way we will be able get him to eat the food we want him to eat will be to give him a steroid, prednisolone (pred), first. Prednisolone will improve his appetite, reduce inflammation in his intestines and make him feel a lot better. Once he feels better we hope he will be more likely to eat the hydrolyzed protein food. If we can get him to eat it for 3 weeks straight we can then wean him off the prednisolone to see if the special food alone will keep his intestines happy. If we can get him back off the pred we can avoid side effects from long-term steroid use.

Unfortunately, it's dangerous to use prednisolone along with an NSAID drug such as his arthritis medication. In order to use the pred we have to get him off the NSAID first. In order to stop the NSAID we have to switch him to a different type of arthritis medication. We are planning to use gabapentin for this and gabapentin is slow to take effect. We have to get him on the gabapentin for at least a couple of weeks before we can stop the NSAID or he will be painful when we do. Calvin is also too small to take even our cat-sized gabapentin tablets. So we have special-ordered his new medication in a smaller capsule size.

Our plan is:

- 1) Order gabapentin in a small capsule and wait for it to come in.
- 2) Start gabapentin and give it twice daily in addition to the meloxicam.
- 3) After 2 weeks, stop the NSAID drug.
- 4) 1 week after that, start prednisolone. Continue the gabapentin.
- 5) Assuming the pred works for him, within a couple weeks his appetite should be much better and then we can try the combination hypoallergenic and bladder stone diet again.

Because Calvin is a fussy eater it will now take us six weeks or more to even begin to address his medical problems effectively. Having several problems at once makes things even more difficult. Instead of a quick and easy solution for Calvin's various ailments we are forced to take this slow boat to China!