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## Intermittent inappetence and fur loss in a New Zealand White rabbit

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A two-year-old, male New Zealand White (NZW) rabbit was presented to the clinical veterinarian for inappetence and fur loss. The animal had only been in our animal facility for two weeks. We acquired the rabbit from a commercial supplier we had used previously. The vendor screened the rabbits for infectious pathogens and results were consistently negative. The animal was fed a commercial rabbit diet, provided with water ad libitum, and was not enrolled in any study at the time of presentation.

On clinical examination, the rabbit was bright, alert, and responsive. It had a temperature of 102.6 °F, pulse of 180 beats/min, respiratory rate of 90 breaths/min, and a body weight of 3.40 kg, which we considered normal. Apart from the inappetence and fur loss, no other abnormalities were noted. We sedated the rabbit with ketamine (40 mg/kg i.m.) and took lateral and ventrodorsal abdominal radiographs. We collected blood for a complete blood count (CBC), serum biochemical profile, and *Encephalitozoon cuniculi* ELISA assay. We also submitted fecal pellets for ova and parasite testing. While under sedation, we took nasal swabs for *Pasteurella spp.* polymerase chain reaction (PCR) assay.

We placed the rabbit on supportive therapy of 75 ml Lactated Ringer's solution (LRS, Abbott Laboratories, North Chicago, IL) s.c. twice daily for five days and Reglan (metaclopramide, Baxter Healthcare LLC, Shawnee Mission, KS) at a dose of 0.5 mg/kg i.m. once daily for five

days to promote gastrointestinal motility, while awaiting the laboratory results.

The abdominal and chest radiographs showed no gross abnormalities of internal organs or any evidence of the presence of a radiodense mass. The CBC showed anemia, lymphocytosis, and neutropenia. We saw a white blood cell count of  $8.3 \times 10^3$  leukocytes/ $\mu\text{l}$  with an absolute lymphocytosis (85% versus normal range 39–68%), low relative neutrophil count (14% versus normal range 25–46%), low hemoglobin (7.9 g/dl versus normal range 9.8–14.0 g/dl), and low erythrocytes ( $3.61 \times 10^6/\mu\text{l}$  versus normal range  $5.3\text{--}6.8 \times 10^6/\mu\text{l}$ ). Other hematological parameters were within the normal limits. The biochemical profile showed decreased total protein (4.4 g/dl versus normal range 5.4–7.3 g/dl). Assays testing for *E. cuniculi* and *Pasteurella spp.* were negative, and the fecal examination for ova and parasites was also negative.

The rabbit's appetite returned to normal after 4 days of therapy with LRS and Reglan. However, the inappetence and fur loss re-occurred 5 days later. On physical examination, the animal had a rectal temperature of 103.2 °F, pulse of 186 beats/min, respiratory rate of 46 breaths/min, and a body weight of 3.32 kg. We detected no other abnormalities on physical examination. We placed the rabbit on Baytril (enrofloxacin, Bayer Healthcare Corp, Deerfield, IL) at a dose of 5 mg/kg orally once daily for five days and laxatone (EVSCO Pharmaceuticals, Buena, NJ)



**FIGURE 1** | The kidneys of a two-year-old, 3.40 kg, male New Zealand White rabbit with a chronic history of inappetence and fur loss. The kidneys are enlarged 50% above normal size. Notice their distorted multilobulated appearance.

2 ml orally once daily for five days as a laxative suspecting possible bacterial infection and/or gastrointestinal fur balls. We provided the rabbit with fresh carrots and hay to help stimulate intestinal motility and appetite. However, due to the continued inappetence and slow deterioration while receiving clinical therapy, we decided to euthanize the rabbit. A necropsy was performed immediately afterward.

On gross pathology, both the kidneys were enlarged, multilobulated, and firm on palpation. The cortical surfaces were irregular with the presence of several white nodules (Fig. 1). No other significant gross pathology was observed in the abdominal or chest cavities.

Based on the gross pathology what is the likely cause of the rabbit's condition?

**What's your diagnosis?**