## Thrombocytopenia

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# Following are differential diagnoses for patients presented with thrombocytopenia.\*

- Breed-associated inherited macrothrombocytopenia
  - Cavalier King Charles spaniels
  - Norfolk and cairn terriers
  - Identified sporadically in:
  - -Bichons frises
  - -Boxers
  - -Chihuahuas
  - Cocker spaniels
  - –English toy spaniels
  - -Havanese
  - -Jack Russell terriers
  - -Labradoodles
  - -Labrador retrievers
  - -Maltese
  - -Poodles
  - -Shih tzus
  - Inherited macrothrombocytopenia resulting from May-Hegglin anomaly (rare; reported in a pug crossbreed)
- Breed-associated thrombocytopenia
  - Akitas
  - Greyhounds
  - Other sight hounds (eg, whippets, deerhounds)
- Decreased platelet production
  - Acquired immune-mediated amegakaryocytic thrombocytopenia
  - Aplastic anemia/bone marrow panhypoplasia
  - -Drug-associated effect (eg, chemotherapeutic, estrogen, griseofulvin [cats],

chloramphenicol, sulfadiazine)

- Infectious cause (eg, canine parvovirus, feline panleukopenia virus, FeLV, chronic *Ehrlichia canis* infection)
- -Other less common cause (eg, exposure to radiation, chemicals, mycotoxins, plant toxins)
- Cyclic hematopoiesis in gray collies (ie, gray collie syndrome)
- Myelophthisis (eg, myelofibrosis; lymphoid, myeloid, or metastatic neoplasia)
- Dilutional thrombocytopenia (eg, after massive transfusion, particularly of platelet-poor products)
- Gestational thrombocytopenia
  - Occurs in humans, cows, and mice
  - May occur in dogs and cats
- Increased platelet consumption
  - Disseminated intravascular coagulation
  - Envenomation (eg, snake bite)
  - Thrombotic microangiopathy (eg, thrombocytopenic thrombotic purpura, hemolytic uremic syndrome)
  - Vasculitis
- Increased platelet loss
  - Hemorrhage (eg, secondary to anticoagulant rodenticide toxicity or trauma)
- Increased platelet sequestration
  - Splenomegaly (eg, due to hypersplenism secondary to portal hypertension)
  - Splenomegaly ± hepatomegaly (eg, hypothermia, endotoxemia)
  - Other blood pooling

<sup>\*</sup>The pathogenesis of thrombocytopenia is often multifactorial. Thrombocytopenia associated with neoplasia, infectious disease, liver disease, and drug administration often has a complex mechanism with multiple contributing factors.

- Platelet destruction
  - Immune-mediated thrombocytopenia
  - -Primary (ie, no underlying disease identified)
  - -Secondary (eg, infection, neoplasia, drug-associated effect)
  - Non-immune-mediated platelet destruction, often due to infection (eg, rickettsial disease [eg, anaplasmosis, ehrlichiosis]), protozoal infection (eg, babesiosis), drugs, or neoplasia
    Hemophagocytic syndrome or lymphohistiocytosis
- Pseudothrombocytopenia, possibly due to:
  - EDTA
  - -Platelet satellitism and/or phagocytosis
  - Overlap in size between RBCs and platelets (depending on methodology of platelet enumeration)
  - Platelet clumping (especially in cats)

### References

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### **VETORYL® CAPSULES** (trilostane)

5 mg, 10 mg, 30 mg, 60 mg and 120 mg strengths Adrenocortical suppressant for oral use in dogs only.

BRIEF SUMMARY (For Full Prescribing Information, see package insert.)

**CAUTION:** Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

DESCRIPTION: VETORYL Capsules are an orally active synthetic steroid analogue that blocks production of hormones produced in the adrenal cortex of dogs.

**INDICATION:** VETORYL Capsules are indicated for the treatment of pituitary- and adrenal-dependent hyperadrenocorticism in dogs.

CONTRAINDICATIONS: The use of VETORYL Capsules is contraindicated in dogs that have demonstrated hypersensitivity to trilostane. Do not use VETORYL Capsules in animals with primary hepatic disease or renal insufficiency. Do not use in pregnant dogs. Studies conducted with trilostane in laboratory animals have shown teratogenic effects and early pregnancy loss.

WARNINGS: In case of overdosage, symptomatic treatment of hypoadrenocorticism with corticosteroids, mineralocorticoids and intravenous fluids may be required. Angiotensin converting enzyme (ACE) inhibitors should be used with caution with VETORYL Capsules, as both drugs have aldosterone-lowering effects which may be additive, impairing the patient's ability to maintain normal electrolytes, blood volume and renal perfusion. Potassium sparing diuretics (e.g., spironolactone) should not be used with VETORYL Capsules as both drugs have the potential to inhibit aldosterone, increasing the likelihood of

HUMAN WARNINGS: Keep out of reach of children. Not for human use. Wash hands after use. Do not empty capsule contents and do not attempt to divide the capsules. Do not handle the capsules if pregnant or if trying to conceive. Trilostane is associated with teratogenic effects and early pregnancy loss in laboratory animals. In the event of accidental ingestion/overdose, seek medical advice immediately and take the labeled container with you.

PRECAUTIONS: Hypoadrenocorticism can develop at any dose of VETORYL Capsules. A small percentage of dogs may develop corticosteroid withdrawal syndrome within 10 days of starting treatment. Mitotane (o,p'-DDD) treatment will reduce adrenal function. Experience in foreign markets suggests that when mitotane therapy is stopped, an interval of at least one month should elapse before the introduction of VETORYL Capsules. The use of VETORYL Capsules will not affect the adrenal tumor itself. Adrenalectomy should be considered as an option for cases that are good surgical candidates. The safe use of this drug has not been evaluated in lactating dogs and males intended for breeding.

ADVERSE REACTIONS: The most common adverse reactions reported are poor/reduced appetite, vomiting, lethargy/dullness, diarrhea, elevated liver enzymes, elevated potassium with or without decreased sodium, elevated BUN, decreased Na/K ratio, weakness, elevated creatinine, shaking, and renal insufficiency. Occasionally, more serious reactions, including severe depression, hemorrhagic diarrhea, collapse, hypoadrenocortical crisis or adrenal necrosis/rupture may occur, and may result in death.



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