Hematuria in Dogs

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HEMATURIA SIGNS OBSERVED

Differentiate hematuria vs pigmenturia

Microscopic only*

Rule out iatrogenic hematuria secondary to cystocentesis

Recheck urinalysis with free-catch voided sample (normal, ≤5 rbc/hpf)

Hematuria resolved?

YES

NO

Microscopic and macroscopic*

Recommend further diagnostic testing, particularly if recurrent or clinical signs present (eg, pollakiuria, dysuria, stranguria)

Lower urinary tract localization (pollakiuria, dysuria, stranguria; timing of hematuria: initial/beginning of voiding†)

Normal urogenital examination

CBC, serum chemistry profile, urine culture, abdominal radiography, coagulation panel, ultrasonography

DIAGNOSIS

Primary hemostatic disorder

Prostatic disease, transmissible venereal tumor, estrus, vaginitis, trauma

DIAGNOSIS

Infectious disease (bacterial, fungal, or parasitic infection)

Antibiotics based on culture and susceptibility results, antifungals or antiparasitics based on urinalysis results

DIAGNOSIS

Cystourethrotholithiasis

Cystoscopy, cystotomy, voiding urohydropropulsion, percutaneous cystolithotomy

Abnormalities on radiographs or ultrasounds (eg, prostatomegaly, lymphadenopathy, renomegaly, masses)

No identifiable cause

Abnormal urogenital examination

DIAGNOSIS

Cystourethrolithiasis

Abnormalities on radiographs or ultrasounds (eg, prostatomegaly, lymphadenopathy, renomegaly, masses)

No identifiable cause

*Macroscopic hematuria occurs when the quantity of blood in urine is visible to the naked eye (eg, pink, red, dark brown in color; may contain blood clots). Microscopic hematuria is characterized by small numbers of RBCs in urine and is only visible during microscopic examination of urine sediment.
†The timing of hematuria is not always diagnostically accurate.
‡Renal hematuria is often subclinical.

MSM = methylsulfonylmethane
Upper urinary tract localization (polyuria, polydipsia; timing of hematuria: end or total [ie, at the end of or throughout urination])

Abdominal ultrasonography (+CBC, serum chemistry profile, urine culture if not already performed)

No identifiable cause

Cystoscopy

DIAGNOSIS
Neoplasia

Surgical resection, chemotherapy, radiation therapy

DIAGNOSIS
Inflammatory disease (eg, polypoid cystitis)

NSAIDs, MSM

Cystoscopy, cystotomy, voiding urohydropropulsion, percutaneous cystolithotomy

DIAGNOSIS
Radiolucent stones

Antibiotics, NSAIDs, castration +/- prostatectomy, chemotherapy

References

Suggested Reading