



PATIENT PRESENTING CLINICAL SIGNS

PATIENT Grey Boy Dixon
SPECIES Canine
BREED Miniature Schnauzer
SEX Male
AGE 11 years
WEIGHT 16 Pounds

History: p was diagnosed with a biliary mucocele w/ evidence of compromised wall by emergency hospital 4/12/22 surgery w/ cholecystectomy was recommended but o was unable to do this due to finances p's last meal was yesterday p has not eaten anything in the last 24 hours p has a history of elevated liver values p vomited 1 time approx 2 days ago
 Abnormal PE/Chem/CBC/UA Results: Icteric - MM and skin on ventral abdomen is yellow Tacky MM - suspect approx 5% dehydration Pain on Palpation of Cranial Abdomen Lethargic - p is responsive but will not stand and prefers to lay down Reduced Appetite - p's last meal was yesterday Vomited bile 1x 2 days ago ALKP = 5308 U/L (H*) 23 - 212 cPL = Abnormal ALB = 2.0 g/dL (L) 2.2 - 3.9 ALT = 834 U/L (H) 10 - 125 AMYL = 1604 U/L (H) 500 - 1500 GLU = 55 mg/dL (L) 70 - 143 LIPA = 2089 U/L (H) 200 - 1800 TBIL = 11.4 mg/dL (H) 0.0 - 0.9 GLOB = 4.6 g/dL (H) 2.5 - 4.5 MCHC = 38.8 g/dL (H) 32.0 - 37.9 PLT ** 132 K/uL (L) 148 - 484 MPV = 14.8 fL (H) 8.7 - 13.2 MONOS ** 1.23 K/uL (H) 0.16 - 1.12 Band **
 Suspected Rule Outs: ruptured gallbladder vs biliary tract obstruction vs liver failure vs other MMW

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is well distended. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. Presence of free floating and gravity dependent echogenic debris within the urinary bladder. The gravity dependent echogenic debris, casts an acoustic shadow, consistent with multiple cystoliths or calcified sediment. The latter measures 1.8 cm in length. Some of the debris "scintillates". There is no evidence of polyps or a mass.

Prostate

The prostate is primarily homogenous with the occasional cyst-like lesion. It measures 2.60 cm, which is within normal limits for an intact male.

Kidneys

The **left** kidney measures 5.01 cm. The capsule is smooth. The cortex is very mildly hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, without evidence of pyelectasia. A nephrolith (5.5 mm) is noted, without signs of an obstruction. An accumulation of intrapelvic fat is noted. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 5.27 cm. Findings are similar to the left kidney.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.44 cm at the cranial pole, 0.50 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

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 DVSc, Diplomate
 ACVIM

IMAGING PERFORMED BY
 Loetitia Saint-Jacques, RVT

HOSPITAL NAME

Fairgroudns AH

REFERRING VET

Dr. Wehrman

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DATE

6/14/22



PATIENT

Grey Boy Dixon

The **right** adrenal gland measures 0.73 cm at the cranial pole, 0.35 cm at the caudal pole and 2.17 cm in length. A possible nodule is present at the cranial pole. No abnormalities are noted with the gland's echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

SPECIES

Canine

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

BREED

Miniature Schnauzer

SEX

Male

Liver

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver is diffusely hyperechoic, but homogeneous. It has a mildly coarse/granular echotexture. Focal lesions are not observed and no abnormalities are observed with the hepatic vessels.

AGE

11 years

The gallbladder (GB) is moderately distended with a marked amount of free floating, gravity dependent, and inspissated echogenic material (sludge), much of which is immobile. Furthermore, strings of mucus extending from the intramural wall to the inspissated bile are noted circumferentially. The GB wall is mildly thickened (1.4 mm), but within normal limits in echogenicity. The cystic duct is not well visualized. The common bile duct (CBD) is mildly dilated at 0.44 cm. A mass is not noted within the CBD. The mesentery surrounding the CBD is mildly to moderately hyperechoic. Edema or very small amount of free fluid is visualized surrounding the GB. A mucocele is suspected (see below).

WEIGHT

16 Pounds

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No abnormalities are observed with the duodenal papilla.

Gastrointestinal

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A large amount of gas is present with the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

The duodenum measures 0.41 cm (WNL). Fogging and mild stippling of the mucosa are present. No abnormalities are observed with the duodenal papilla.

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The remainder of the small intestinal wall thickness is within normal limits and the definition of the wall layers is preserved, however, fogging and mild stippling of the mucosa are present. Abnormally dilated loops of bowel are not observed.

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Gas in ingesta are present in the transverse colon.

The colonic wall is not thickened and mural detail is considered normal.

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Pancreas

The **left limb** has a mildly coarse echotexture, in addition to hypoechoic areas with mildly irregular contours. It is not overtly enlarged. The surrounding mesentery is mildly to moderately hyperechoic.

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Signs of active pancreatitis are present, in addition to age related changes. Previous episodes of pancreatitis cannot be excluded. There are no signs of neoplasia.

SPECIES

Canine

The **right limb** also has a mildly coarse echotexture, in addition to pinpoint to punctate hyperechoic foci scattered throughout the parenchyma. No abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. Fibrosis, due to age-related changes, secondary to previous episodes of pancreatitis, mineralization and amyloid deposition are suspected. Signs of active pancreatitis or neoplasia are not appreciated.

BREED

Miniature Schnauzer

Other

Testicles

SEX

Male

Subjectively, the testicles are normal in size for a dog of Grey Boy's stature. Both are symmetrical, have smooth, curvilinear contours and are homogenous in echotexture. Focal lesions are not observed.

AGE

11 years

Lymph nodes

No abnormalities are observed

WEIGHT

16 Pounds

Abdominal effusion

A scant amount of anechoic fluid is visualized between two segments of small intestines and surrounding the gall bladder.

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Heart

Hypovolemia is suspected, as per the sonographer's suspicions, based on the small left atrium and pseudohypertrophy of the left ventricle. Very mild myxomatous degeneration of the septal leaflet of the mitral valve is observed. Pleural and pericardial effusion, and pulmonary edema are not observed.

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ULTRASONOGRAPHIC FINDINGS

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- **Gallbladder:** Presence of a *mature mucocoele*. A small rent is suspected. Although the rent is not visualized, a very small amount of anechoic fluid or edema is noted surrounding the GB circumferentially, in addition to hyperechogenicity ventral to the GB. A trivial amount of anechoic effusion is observed between two loops of jejunum.

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- **Liver:** *Vacuolar and reactive hepatopathies* are suspected, in addition to possible cholestasis. *Cholangitis/cholangiohepatitis and cholecystitis with a secondary bacterial infection* are also suspected. Hepatitis is considered less likely. There are no obvious signs of neoplasia.

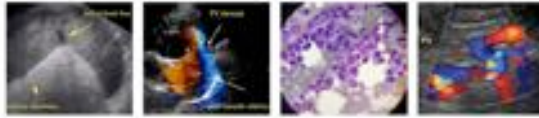
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- **Pancreas:** Signs of *mild pancreatitis* are present, in addition to *age related changes*, including fibrosis secondary to previous episodes of pancreatitis, mineralization and amyloid deposition. Signs of neoplasia are not appreciated.

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- **Gastrointestinal tract:** Inflammatory changes suggestive of inflammatory bowel disease cannot be excluded. However, inflammation due to pancreatitis is also possible.
- **Right adrenal:** Mild enlargement of the cranial pole, with a possible nodule. A benign adenoma is suspected, i.e. there are no signs of malignancy. Hyperplasia due to chronic stress cannot be excluded.
- **Heart:** Hypovolemia. Very mild myxomatous degeneration of the septal leaflet of the mitral valve.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

SEX

Male

The following are suggested/recommended
Sepsis cannot be excluded based on mild hypoglycemia and the left shift on Grey Boy's CBC.

Emergency surgery to perform a cholecystectomy is strongly recommended.

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If this is not possible for financial reasons, hospitalization, and medical therapy may be considered for 24-48 hours

Intravenous fluids to correct hydration and treat for possible sepsis

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Intravenous antibiotics with coverage of aerobic and anaerobic bacteria, such as a combination of ampicillin or ticarcillin with enrofloxacin.

Analgesia, for example, CRIs consisting of opioids (fentanyl), with lidocaine and ketamine, is recommended. Oral therapy at home should consist of methadone two to three times a day and gabapentin three times a day.

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Vitamin K (0.5 mg/kg SQ q8-12h for 1-3 doses), due to cholestasis

Monitoring axillary temperature at home

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Evaluate abdominal circumference to ensure ascites (biliary peritonitis) not developing.

Ursodeoxycholic acid should **NOT** be administered.

A low fat diet that is appetizing may be used to stimulate Grey Boy to eat

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Small frequent meals

A nasal tube to start trickle feeding may be considered

Anti-emetics, may be required, including metoclopramide

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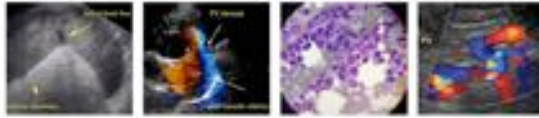
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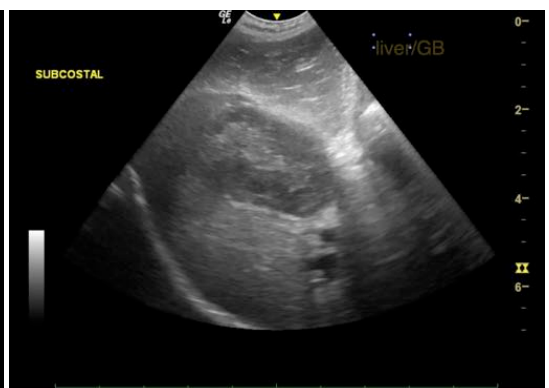
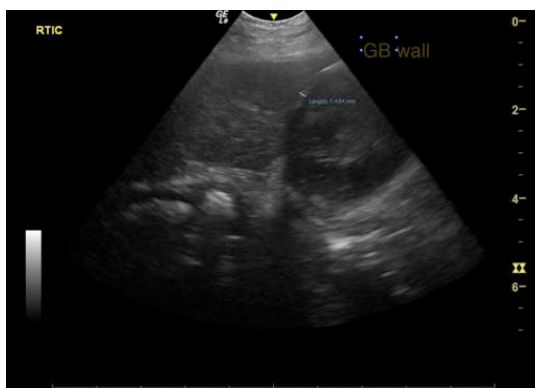
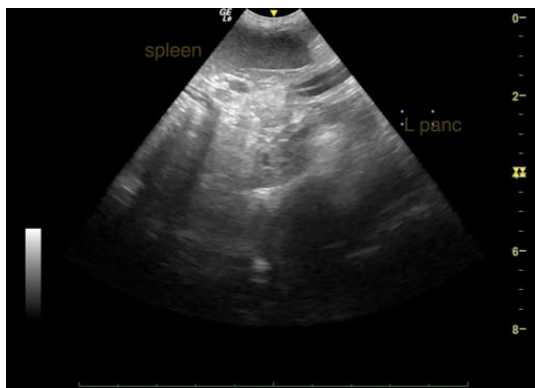
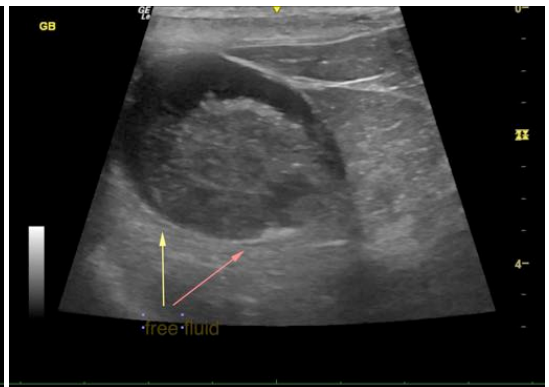
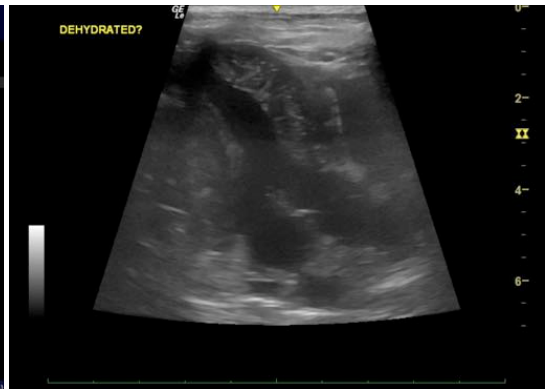
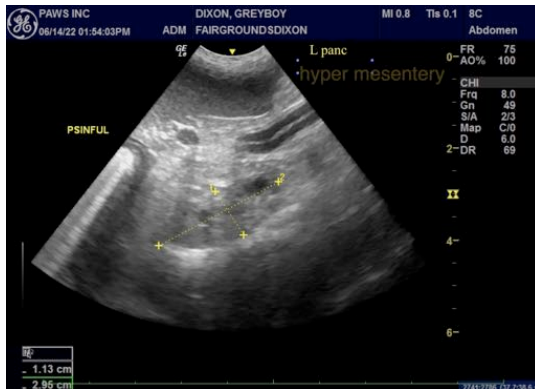
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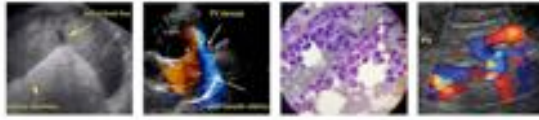
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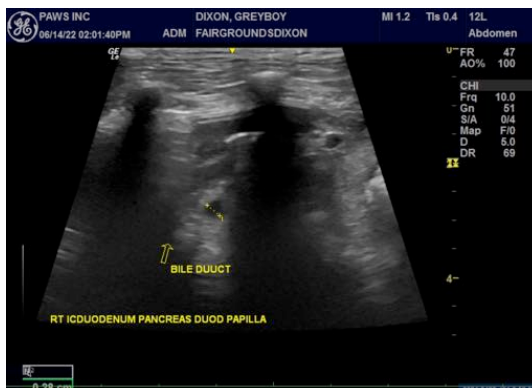
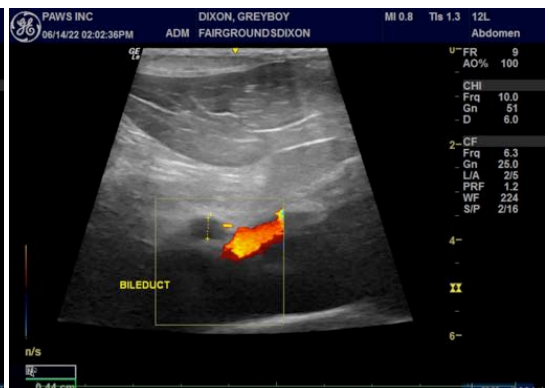
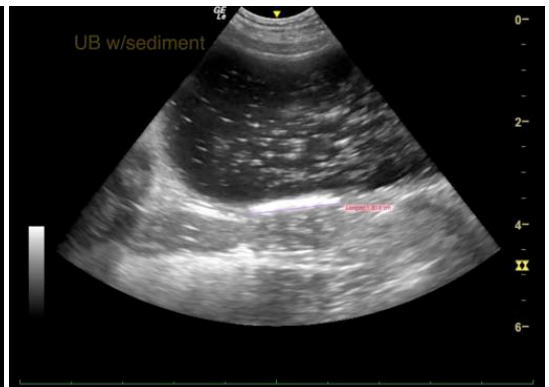
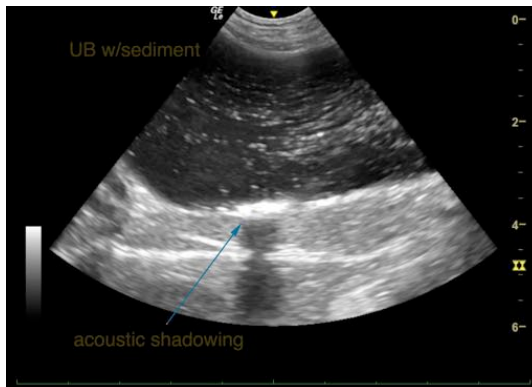
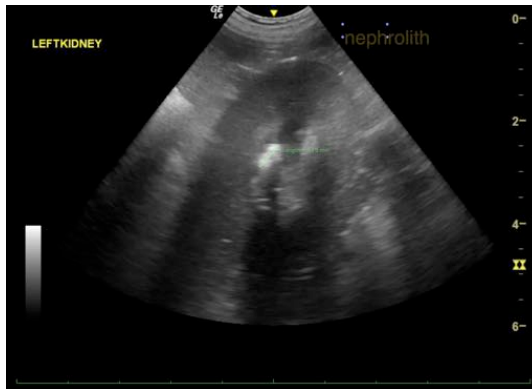
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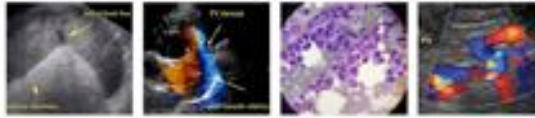
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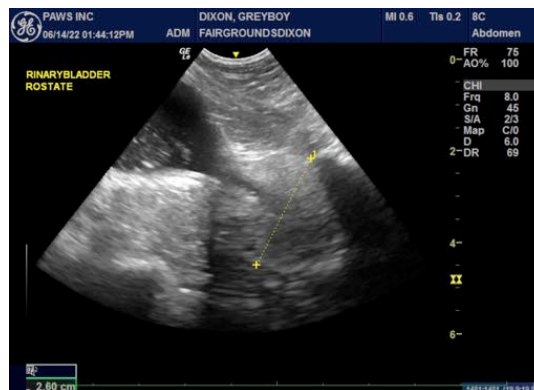
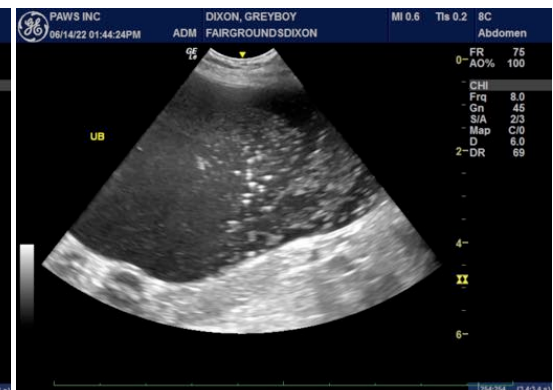
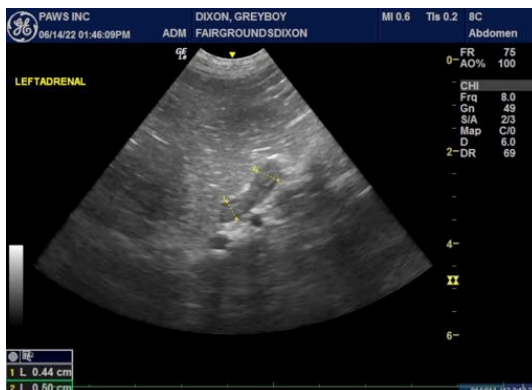
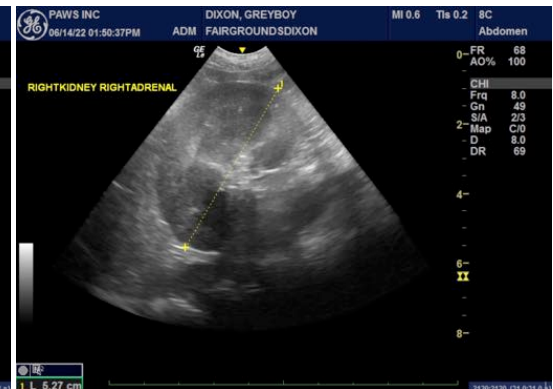
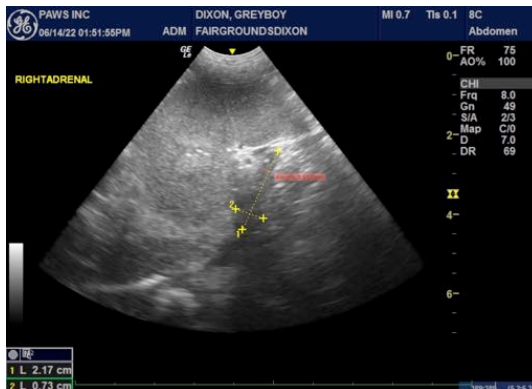
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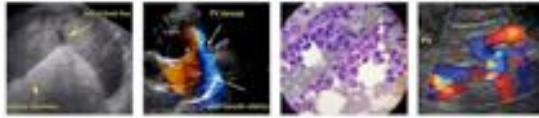
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

SPECIES

Canine

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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Miniature Schnauzer

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SEX

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