Caudle abdomen sagittal plane ultrasonography (USG) revealed tubular uterus filled with homogenous anechoic fluid having a diameter of (5.4 cm × 2 cm) and thin uterine wall.

Transverse section USG revealed uterine lumen filled with anechoic fluid having a diameter of 2.2 cm × 4.9 cm and uterine wall measured (5.2 mm).

PLATE 5: Pyometra
Sagittal plane USG revealed enlargement of uterus which containing mix echogenic pus

Hyperechoic mobile internal echoes (flakes) has been seen with thickened uterine wall
Sagittal plane ultrasonography revealed tubulated uterine horns which was filled with hypoechoic echogenicity.

Ultrasound at the right flank region revealed a decreased renal size (3.8 cm × 2.9 cm), thinning of renal parenchyma, and increase in the echogenicity of the cortex hypoechoic to hyperechoic.
On sagittal plane USG, a sacculated uterus was seen below anechoic urinary bladder containing hypoechoic to hyperechoic echotexture with hyperechoic thick uterine wall (0.3 cm).
Dilated uterus (3.5 cm) along with uterine horns* (2.2 cm), (1.9 cm) uterine lumen containing hyperechoic echotexture was pus and hyperechoic uterine wall*
Caudle abdominal sagittal plane ultrasonography revealed uterine horns was filled with anechoic to hypoechoic fluid which was showing irregular pattern diameter was noted as 2 cm was pus.
Ultrasonography of caudle abdomen revealed a tubular sac like uterine horns filled with anechoic to hypoechoic fluid was pus inflammation of endometrium seen which led to hyperechogenic endometrium.

Hyperechoic mobile internal echoes* in uterine lumen
USG caudle abdomen revealed distension of uterine horn (2.98 cm) which containing hypoechoic to hyperechoic fluid with bright hyperechoic patches. Uterine wall thickness was measured as 0.4 cm.

Clustering of hyperechoic pus was seen.
Ultrasonography of the liver lobes at caudle xyphoid area revealed echogenicity with irregular margination due to progressive cirrhosis with thickened gall bladder*

Hyperechoic intestinal loops* along with hyperechoic spleen were floating in anechoic ascitic fluid

Anechoic urinary bladder hypoechoic bladder wall (0.4 cm) covered by anechoic fluid acoustic enhancement was also present

Dilated uterine horn lumen was filled by homogenous hypoechoogenic fluid with hyperechoic uterine wall
Ultrasonography of the liver lobes at caudle xyphoid area revealed large amount of anechoic peritoneal fluid which was surrounding hypotrophic hepatic lobes (3.77 cm × 4.18 cm) having a patchy and diffuse echogenicity with irregular margination due to progressive fibrosis and anechoic gall bladder (2.87 cm × 1.87 cm).

Hypoechoic to hyperechoic intestinal loops were jumbling in anechoic

Transducer placed on sagittal plane uterus observed as elongated homogenous hyperechoic mass having diameter of 3 cm × 10 cm)

On the transverse plane USG of caudle abdomen uterus revealed as

PLATE 14: Pyometra with liver cirrhosis
Ultrasonography of urinary bladder at pubic region revealed multiple 5 - 6 hyperechoic round structures* which were adjacent to each other having variable diameter of (0.2 cm – 0.5 cm) showing mild amount of acoustic shadowing.

Tense urinary bladder filled with anechoic urine having a diameter of (10.5 cm × 6.5 cm) Acoustic enhancement observed below anechoic fluid, no debris seen.
Ultrasonography of urinary bladder at pubic region revealed 2 hyperechoic rounded structure (0.3 cm and 0.5 cm) at the base of the urinary bladder was stones and creating acoustic shadowing* and hypoechoic sedimentation observed.

PLATE 16: Urinary bladder stone
A large rounded hyperechoic mass (1.64 cm × 1.68 cm) was seen at the base of urinary bladder creating a clear acoustic shadowing beneath was a single cystolith.

Anechoic urinary bladder (3.8 cm × 3.3 cm) with thick bladder wall and increase in echogenicity.
Caudle abdominal ultrasonography of uterus revealed 2 anechoic smooth marginated, mild thickened membrane cavities on the surface of the uterus were cysts.

Uterine cysts having a diameter of cyst 1 (4.6 cm × 2 cm), cyst 2 (1.58 cm × 1.21 cm)

Enlarged uterine horn (4.81 cm) having mix echogenic fluid with hyperplastic uterine endometrium (0.42 cm)
Caudle abdominal sonography of uterus revealed 2-3 anechoic smooth marginated, thin membraned cavities which were present on the surface of the uterus were cysts.

Dilated uterine horn (3.2 cm) with hyperplastic uterine endometrium having cysts on the surface of uterus having a diameter of cyst 1 (2.6 cm x 2 cm), cyst 2 (0.9 cm) and cyst 3 (0.8 cm) having heterogeneous fluid in uterine lumen.
Caudle abdominal ultrasonography of uterus revealed 2 rounded anechoic smooth marginated, thick walled cavities presented on the surface of the uterus were cysts.

Uterine cysts having a diameter of cyst 1 (2.3 cm × 2.1 cm)

Dilated uterine horn with anechoic to hypoechoic fluid having hyperechoic flakes (pus) and thickened uterine endometrium.
Caudle abdominal ultrasonography of uterus revealed 3 rounded, anechoic, smooth margined, mild thickened membrane cavities presented on the surface of the uterus were cysts having a diameter of cyst 1 (3.1 cm × 3.7 cm), cyst 2 (3 cm × 2 cm ) cyst 3 (2.9 cm × 2.5 cm)

Cystic appearance on uterine surface and thickened wall

Enlarged uterine horn with hyperplastic uterine endometrium and tubulated uterine lumen (4.8 cm) having mix echogenic fluid
Ultrasonography of right flank at sagittal plane revealed a dilated (2.9 cm) hypoechoic to hyperechoic lumen surrounded by thick (0.32 cm) anechoic to hypoechoic intestinal wall
Ultrasonography of the intestine at right flank on transverse plane revealed a dilated (3cm) hyperechoic lumen surrounded by thick (0.3 cm) anechoic to hypoechoic intestinal wall.

Ultrasonography of the intestine at right flank on transverse plane revealed a elongated intestinal loop with hyperechoic intestinal wall.
Ultrasoundography of the left flank region revealed hypoechoic intestinal loops with anechoic lumen.

**Fig. 4.42** On sagittal plane ultrasonography anechoic intestinal loop observed which containing hypoechoic particles of food*

**Fig. 4.43** Right flank sagittal plane USG revealed clusters of hypoechoic intestine loops
Ultrasonography of the ventral abdomen in transverse plane revealed hypoechoic intestinal loops (1.96 cm), (1.83) coming out from hyperechoic hernial ring* (5 cm)

Fig. 4.45 On sagittal plane ultrasonography of ventral abdomen hypoechoic intestinal loop (1.22 cm) observed and mild amount of acoustic enhancement also observed
Transverse plane ultrasonography of the right flank revealed hypoechoic intestinal loops (1.76 cm) and (0.9 cm) with anechoic lumen were coming out from hyperechoic hernial ring cm.

On sagittal plane ultrasonography of right flank hypoechoic intestinal loop observed and mild amount of acoustic enhancement.
Ultrasonography of intestine at right flank region revealed concentric hypoechoic and hyperechoic rings characterised as “archers target” or “bulls eye” (transverse plane).

Longitudinal scan the intussusceptions appeared as series of linear hyperechoic and hypoechoic streak or sausage like appearance.
Sagittal plane ultrasonography of the pubic region revealed a large homogenous rounded structure 5.2 cm × 4 cm was prostate containing small anechoic cavities in prostate parenchyma were prostatic cysts acoustic enhancement was also observed.

PLATE 28: Benign prostatic hyperplasia and cysts
Ultrasonography of gall bladder at post xyphoid region revealed gall bladder (6 cm × 3 cm) with thickening (0.3 cm) of bladder wall.

A hyperechoic rounded structure seen at the base of the bladder was a cholelith having size of 1.05 cm mild amount of acoustic shadowing.

Sagittal Ultrasonography of the right kidney revealed enlargement of kidney (9 cm × 4.5 cm) with diffuse hyperechoic cortical infiltration, increased cortical (0.4 cm) to medullar (0.3 cm) diameter and hyperechoic renal pelvis.
PLATE 1: INSTRUMENTATION

E-saote ultrasonography machine

Curvilinear scan head (2.5 - 5 MHz)

Linear scan head (8 - 10 MHz)

Acoustic coupling gel
PLATE 4: INSTRUMENTATION

Haematology analyser

Biochemical analyser
PLATE 2: Scanning procedure of ultrasonography

- Hair clipping of animal
- 8th intercostal to coxo – femoral region
- Xyphoid cartilage to inguinal region
- Scanning of animal
- Blood collection from saphenous vein
Abdominal division

Topographical positions of different abdominal and pelvic organs within abdominal divisions

courtesy by Shimaa Ghanem Yehia Aref