

Dystocia in dog and cats

Handle every stressful situation
like a dog.
If you can't eat it or play with it,
Just pee on it and walk away.



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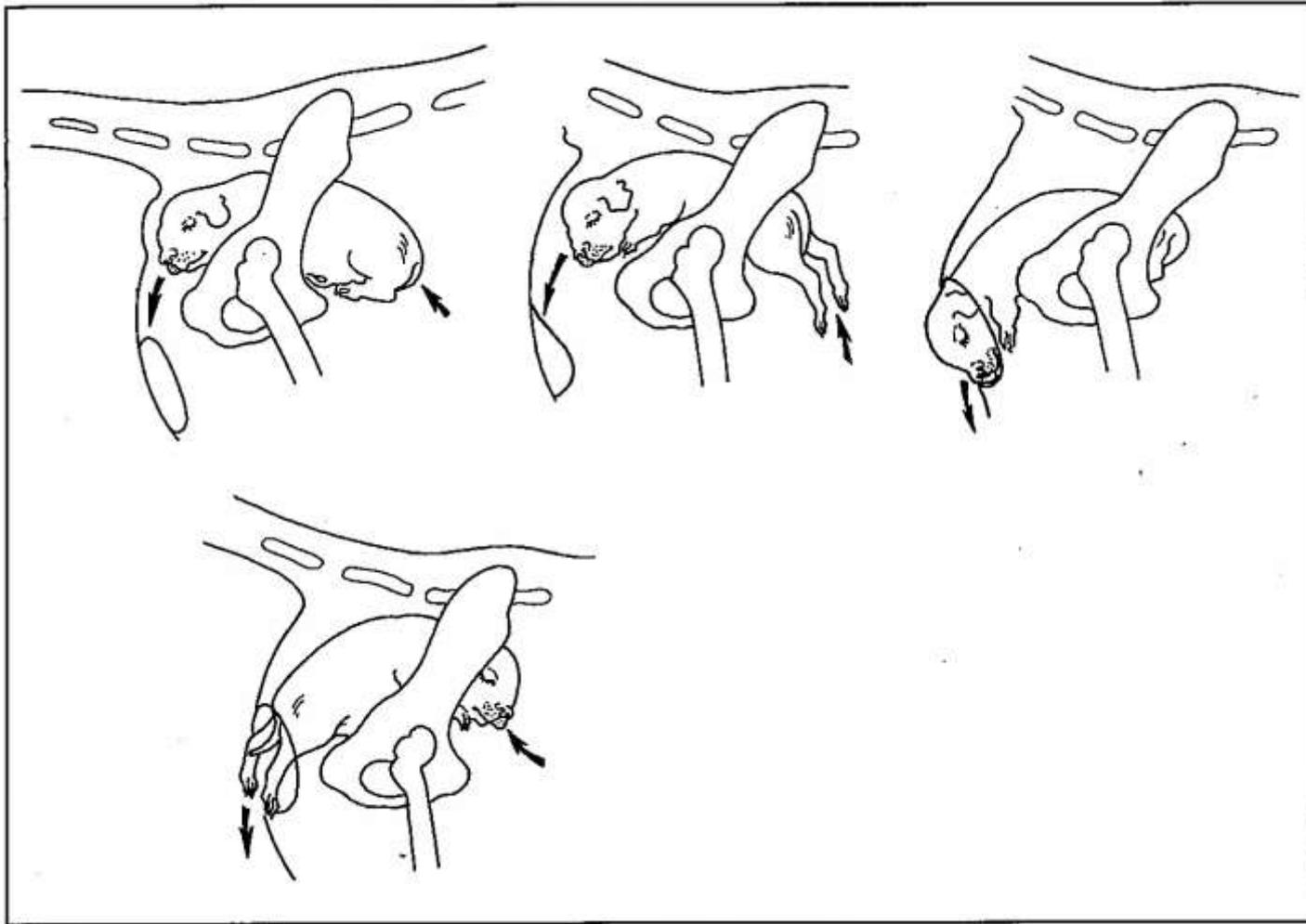
WHELPING

- Parturition in canines is termed as Whelping
- It is expulsion of fetus (and its membranes) from uterus through maternal passage by natural forces ,and in such a state of development that fetus is capable of independent life

by Black^s veterinary dictionary



Normal birth of a puppy in anterior and posterior presentation.



DYSTOCIA

- Dystocia derived from Greek language
- **dys** - meaning difficult, painful, disordered, or abnormal
- **tokos** - meaning birth
- ❖ Occurs when the parturition process ceases to progress normally

Cause of Dystocia

- 1) Maternal factors
- 2) Fetal factors
- 3) Combination of both

Maternal dystocia is encountered more frequently

Fetal factors

A. Fetal over size

- 1) Twin pregnancy
- 2) Small litter size
- 3) Prolong gestation
- 4) Genetic predisposition ie. Brachycephalic,



broad soldier/ broad head

Fetal head

From an obstetrical point of view it's **the most important part:**

- Largest
- Least compressible part of the fetus.
- Most frequent presenting part



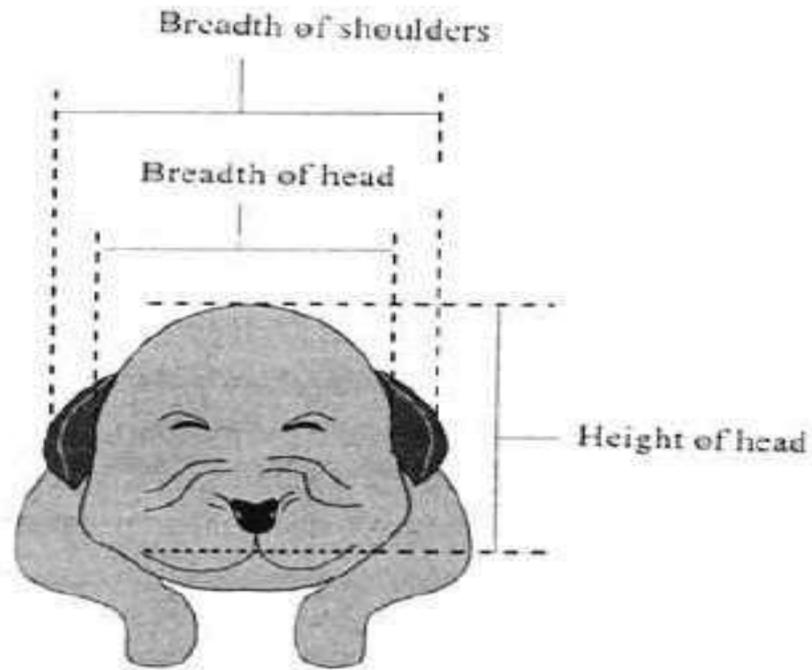


FIG 2. Measurements of the pups taken by breeders within hours after birth

the Boston Terrier puppies showed a strong relation between puppy weight and head circumference, which is highly significant for bitches that already have a poor vertical pelvic width

Fetal factors

B. Abnormal development:

1) Malformation of the head

eg. *hydrocephalus*

2) Malformation of the limbs (number, formation)

3) Anasarca / Ascites

4) Fetal death

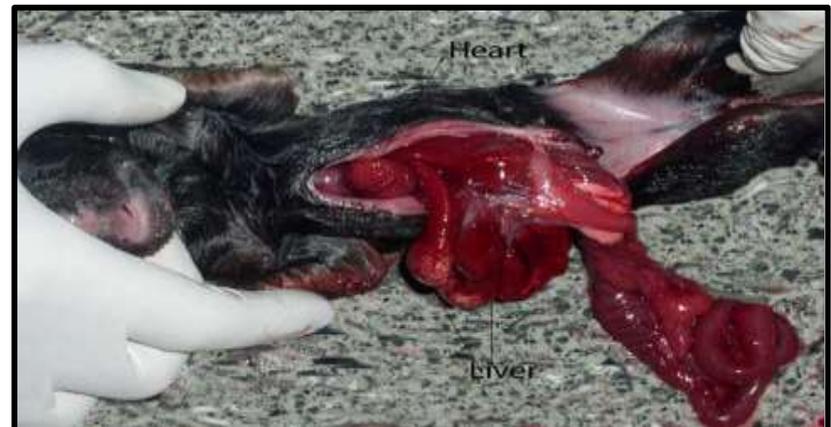
5) Schistosoma reflexum.

Fetal factor

Malformation of the head
(hydrocephalus)



Schistosoma reflexum.



C. Faulty fetal disposition

1) Presentation:

a) Transverse presentation

With transverse presentation, the bitch may stop uterine contractions.

b) Simultaneous presentation of two fetuses

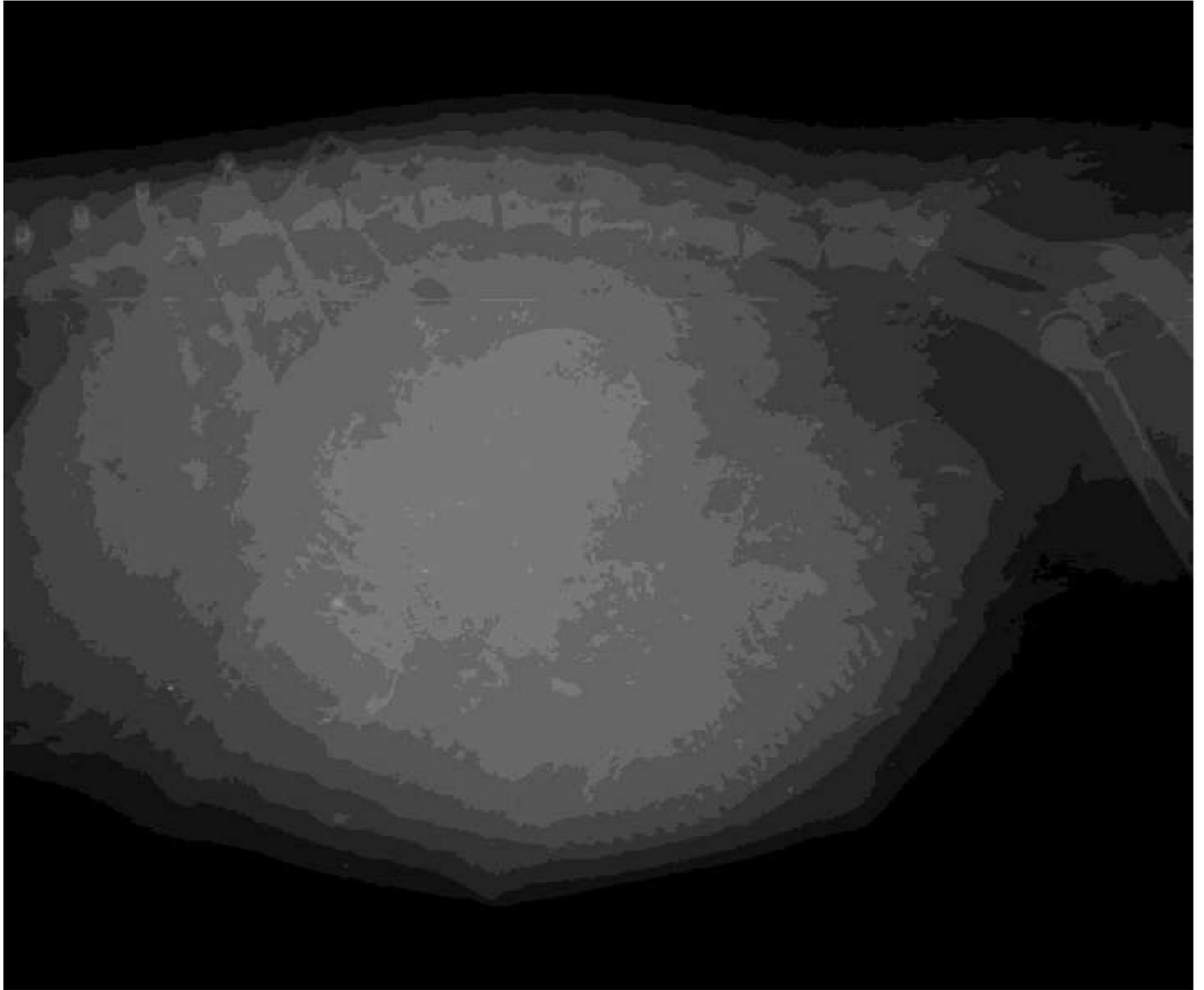
Two puppies can enter the uterine body simultaneously, resulting in a “*traffic jam*”.

2) Posture:

a) Lateral deviation of the head

b) Ventral deviation of the head

“traffic jam”.



Maternal factors

1. Genetic predisposition (breed)

There is a wide consensus among obstetricians that *boxers* and *other brachycephalic breeds* are predisposed for dystocia

Peculiar shape of the fetal head making it difficult to enter the pelvic inlet

2. Age

The frequency of dystocia highest in bitches aged 2-4 years and it gradually declined with the advancing age .

Bitches less than four years accounted for nearly 62 per cent of the dystocia cases

3) Pelvic constriction:

- A. Age (juvenile)
- B. Former pelvic fractures
- C. Neoplasia
- D. Diet-related

6. Disorders of expulsion (uterine causes)

1. **Primary uterine inertia:**

Genetic

Overstretching: large litter, locally: large puppy

Hormonal Infectious Hypocalcemia

2. **Secondary uterine inertia:**

Prolonged expulsive period

3. **Abnormal position of the uterus:** Uterine herniation Uterine torsion.

4. Uterine rupture

5. Uterine neoplasia

6. Placentitis / adhesions

7. Diaphragmatic hernia
8. Tracheal rupture
9. Pain
10. Fear
11. Drugs (progesterone, anaesthetic agents)
12. Muscle weakness
13. Obesity (excessive perivaginal fat)
14. improper maternal environment, and nervousness. (Wallace.1994 , Barber,et.al.2003)

The most common cause of maternal dystocia is uterine inertia

representing 40% to 72%,(Darvelid and Linde-Forsberg;1994)

Uterine inertia is the failure to expel a fetus from the uterus when no obstruction exists

it can be classified as primary or secondary

primary inertia which can be classified as complete or partial

Complete primary uterine inertia occurs when stage 2 labor fails to start and no puppies are delivered.

Partial primary uterine inertia is defined as initiation of normal labor but failure to deliver all puppies

Secondary uterine inertia is the exhaustion of uterine musculature after contracting against an obstruction

DIAGNOSIS

Criteria for Examination of the Dam

1. Prolonged gestation: due date reached without signs of labor or temperature drop; 65 ± 1 days after LH peak or 63 ± 1 days after ovulation
2. Temperature decreases below 99.7°F (37.6°C) for 12 to 24 hr without signs of labor
3. Temperature decreases and then increases to $>99.7^{\circ}\text{F}$ (37.6°C) or $>102.5^{\circ}\text{F}$ (39.2°C) for 12 to 24 hr
4. Vaginal discharge for more than 2 to 3 hr

5. Lack of progression to stage 2 labor after 6 to 8 hr
6. Strong, active abdominal contractions for 30 min without expulsion of a puppy
7. Stage 2 labor lasting >12 hr
8. Prolonged parturition lasting >24 hr
9. Membranes or part of fetus protruding from vagina
10. Signs of systemic illness in the dam.

Diagnosis by radiograph

- Assess the size of the pelvic canal in relation to fetal head size
- Number of fetuses
- **Fetal death** - if the bones of skull begin to override each other or become otherwise deformed

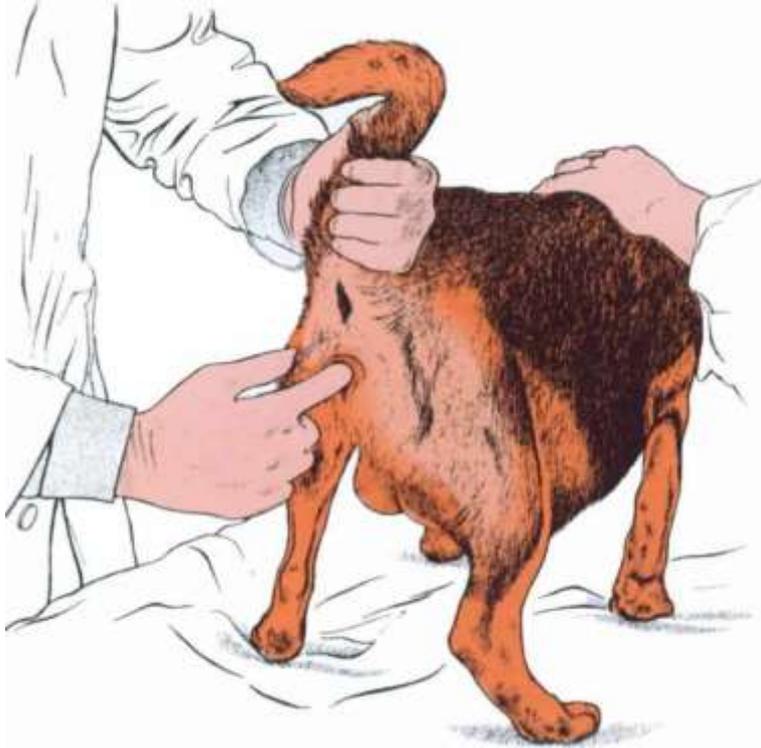


Diagnosis by USG

- There are three major limitations of ultrasonography
- (1) the quality of the machine
- (2) the experience of the operator
- (3) patient factors
 - amount of hair
 - use of quality ultrasound gel,
 - relaxation of the patient,
 - respiratory rate and patient size.



Detailed clinical examination of bitch



Careful palpation of the uterus may enable a fetus to be differentiated from a portion of retained placenta.

