

ESTABLISHING PELVIMETRIC PARAMETERS BY COMPUTER TOMOGRAPHY IN ROTTWEILER BITCHES

M. PENTEA, CARMEN VANDA GANȚĂ

Faculty of Veterinary Medicine Timișoara

Summary

The computed tomography (CT) is a new technique used in establishing the diagnostic and can be utilized in pelvimetry (1, 2, 3, 4, 5, 6). The values obtained through CT are precisions and are used for the reconstructions of the bony pelvis.

The pelvimetric coefficients in the Rottweiler females were performed.

Materials and methods

Have been investigated 10 bitches of Rottweiler through CT scans. The animals used in the study were clinically healthy, age 2,5-7 years. The animals were sedated by a combination of acepromazine 0,05 mg/kg/mc and ketamine 10 mg/kg/mc and placed in the dorsal recumbency.

The computed tomographic scans were performed with a CT scanner Siemens Somaton 4 Plus in the CMPICSU, from the Univeristatea Politehnica Timișoara.

The following pelvimetric parameters were determined and recorded Fig. 1, Fig. 2, Fig. 3, Fig. 4, Fig. 5, Fig. 6): conjugata vera (CV), vertical diameter (DV), transverse diameter (DT), inclinatio pelvis (IP), sacral diameter (DSc), saggital diameter (DS), conjugata diagonalis (CD), the length of pelvis (LP).

Results and discussions

The values of pelvimetric coefficients measured in Boxer bitches were determined by CT scans and the values are in centimeters (cm), registered in table 1.

Tabel 1

The values of pelvimetric coefficients in Rottweiler bitches

Nr. Crt.	Age	DC	DV	DT	IP°	DSc	DS	CD	LP
1	4.2	8.30	7.90	6.10	37.95	7.20	9.40	12.50	17.00
2	3.6	8.50	8.20	6.30	38.40	7.40	9.60	12.60	17.90
3	4.5	8.90	8.40	6.60	39.26	7.60	10.00	13.10	18.40
4	5.0	8.80	8.50	6.70	39.40	7.80	9.90	13.10	18.50
5	4.1	8.40	8.10	6.20	38.90	7.40	9.40	12.60	17.50
6	3.8	8.10	7.80	6.00	37.76	7.20	9.30	12.40	17.30
7	2.7	8.40	7.90	6.30	38.83	7.30	9.60	12.60	18.50

8	2.5	8.30	8.00	6.20	37.84	7.30	9.60	12.60	18.4
9	4.2	8.70	8.10	6.40	38.86	7.40	9.50	12.90	18.20
10	3.7	8.20	7.70	6.00	37.75	7.10	9.40	12.40	17.70
Media		8.45 ±0.26	8.06 ±0.25	6.28 ±0.23	38.50 ±0.64	7.38 ±0.21	9.57 ±0.24	12.68 ±0.26	17.94 ±0.54

According to the results the cranial aperture of the pelvis has elliptical shape, determined by two axes, the vertical being conjugata vera (CV) and the horizontal was transvers diameter (DT) and place the Rottweiler bitches in the dolyccephalic canine type. The values of inclinatio pelvis ranged between 38°-39°.

There is a direct correlation between sacral diameter (DSc), saggital diameters (DS), diagonal diameters (CD) and the length of the pelvis (LP).

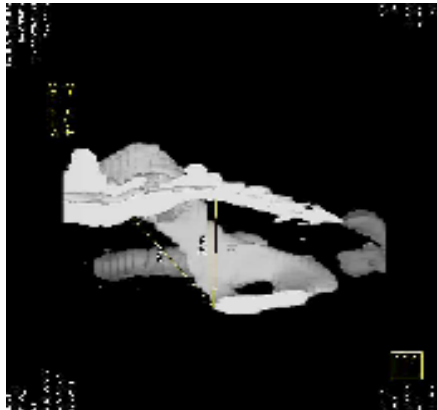


Fig. 1. The conjugata vera and diameter verticalis



Fig. 2. The inclinatio pelvis and diameter verticalis



Fig. 3. The transverse diameter

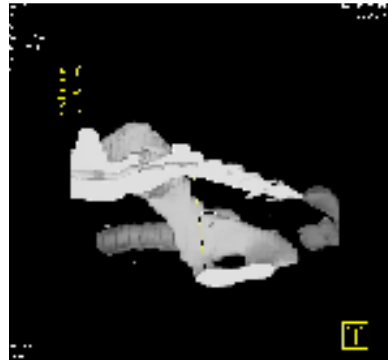


Fig. 4. The sacral diameter

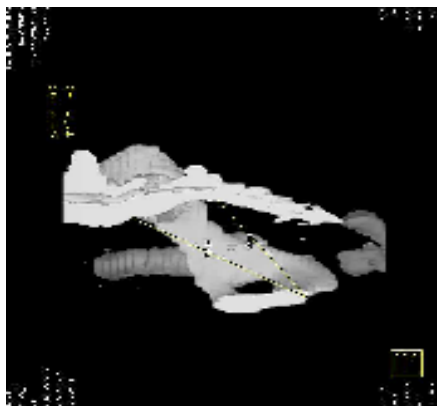


Fig. 5. The conjugata diagonalis and sagittal diameter

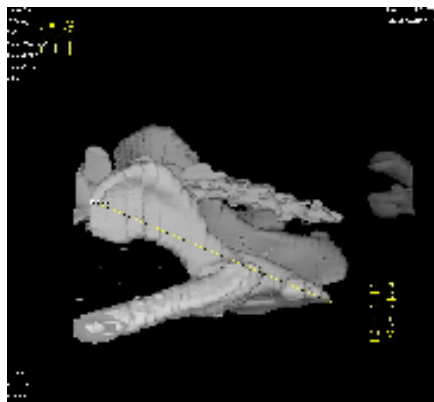


Fig. 6. The length of pelvis

Conclusions

In the Rottweiler the shape of cranial aperture is elliptic.
The length of pelvis (LP) ranged between 17-18,5 cm.
The inclinatio pelvis (IP) induce a sharp angle of approximately 38°-39°.

References

1. **Farese, J.P., Todhunter, R.J., Lust, G., Williams, A.J., Dykes, N.L.** - Dorsolateral Subluxation of Hip Joints in Dogs Measured in a Weight-Bearing Position with Radiography and Computed Tomography, *Veterinary Surgery*, 27:393-405, 1998.
2. **Freak, M.J.** – Abnormal conditions associated with pregnancy and parturition in the bitch, *Veterinary Record*, 74, 1323-1339, 1962.
3. **Linde - Forsberg, Catharina, Forsberg, M.** – Fertility in dogs in relation to semen quality and the time and site of insemination with fresh and frozen semen, *J. Reprod. Fert* 1989, Suppl.39, 299-310.
4. **Linde - Forsberg, Catharina, Forsberg, M.** – Results from 527 controlled artificial inseminations in dogs, *J. Reprod. Fert* 1993, Suppl. 47, 313-323.
5. **Linde - Forsberg, Catharina, Strom Holst, B., Govette, G.** – Comparison of fertility data from vaginal vs uterine insemination of frozen-thawed dog semen, *Theriogenology* 1999, 11-23.
6. **Linde - Forsberg, Catharina** – Pelvimetry to diagnose dystocia in the bitch, *Journal of Small Anim. Pract.*, 40, 257-264, 1999