

Studies in Sex Physiology No. 12: The Situation of the Developing Foetus and the Relationship between the Pregnant Horn and the corresponding Corpus Luteum Verum.

By

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INTRODUCTION.

IN Study 10 (Curson and Quinlan) the situation of the foetus was investigated in a series of 41 pregnancies (33 days 4 hours to 108 days 16 hours) supervised by Mr. G. S. Maré, of Grootfontein School of Agriculture, C.P.

It is now possible to extend this series as follows: Pregnancies of (a) 20 days; (b) 25 days; (c) 30 days; (d) 115 days; (e) 125 days; (f) 135 days; and (g) 145 days. As will be evident from a perusal of the table accompanying the study in question, specimens (a), (b), and (c) are earlier than shown formerly, while (d), (e), (f), and (g) are later than previously given.

Details regarding the new specimens may be tabulated thus:—

Serial number of foetus.	Official number of ewe.	Age of foetus.	Approximate total weight of unopened foetus.	Approximate weight of foetus. Gm.	Approximate size C.R. length. Cm.
F (a).....	A. 1 144	20 days	47* gm. (48.5)	specimen lost	—
G (a).....	D. 75	25 days	91* gm. (93.7)	„	—
H.....	A. 1 146	30 days	91* gm. (85.2)	0.62	1.6
<i>See data furnished in Study 10.</i>					
42.....	A. 1 152	115 days	2915* gm. (3260)	1490	26
43.....	A. 1 145	125 days	5499* gm. (6220)	2810	33
44.....	V. 12	135 days	5017* gm. (5260)	2780	35
45.....	A. 1 143	145 days	4988* gm. (5140)	2790	35

* Figures supplied by Mr. Maré, who weighed the specimens *before* being placed in formalin. The figures in brackets are those determined at Onderstepoort *after* arrival of the material.

As will be seen in the figures, not only are the unopened uteruses shown in the dorso-ventral position (cervix being caudal), but the situation of the foetuses has been traced. Fig. 1 is a non-pregnant uterus which should be compared with Fig. 2 [uterus containing foetus F (a)].



Fig. 1.—Control: Non-pregnant uterus of sheep.
Fig. 2.—Uterus, 20 days pregnant, containing Foetus F (a).
Fig. 3.—Uterus, 25 days pregnant, containing Foetus G (a).
Fig. 4.—Uterus, 30 days pregnant, containing Foetus H.

DISCUSSION OF FIGURES.

As before, the situation of each foetus is clearly shown in the figures. The following facts emerge from an analysis:—

- (a) All 7 pregnancies are *single*. This means that of a series of 48 pregnancies *in all*, 43 are single (see Study 10).
- (b) Concerning *presentation*, 5 out of 7 cases are cranial, the direction in all foetuses being longitudinal. Of the entire series of 40 *undisturbed* single pregnancies (total sheep, 48), 25 are cranial and 15 are caudal.
- (c) Regarding *position* the following relations are clear: 4 dorso-sacral (oldest foetuses) and 3 dorso-iliac (youngest foetuses), 2 of which were resting on their left side and 1 on its right side.
- (d) With reference to *posture*, the general flexed state of the head and limbs was noted, as shown in the figures.

In this series of 7 pregnancies, the material had not been tightly packed in tins as before.

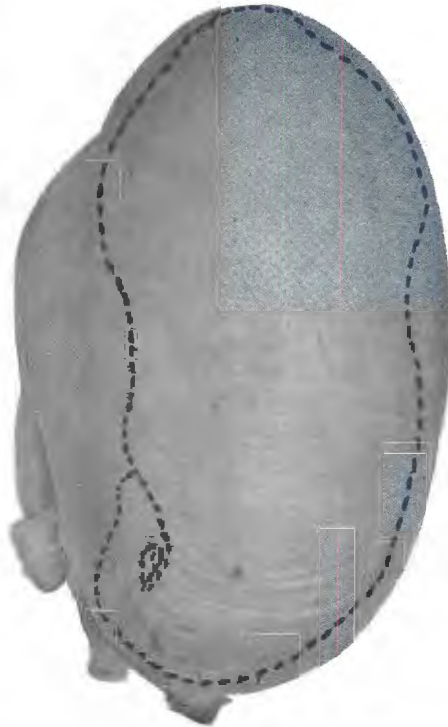


Fig. 5.—Uterus, 115 days pregnant, containing Foetus 42.

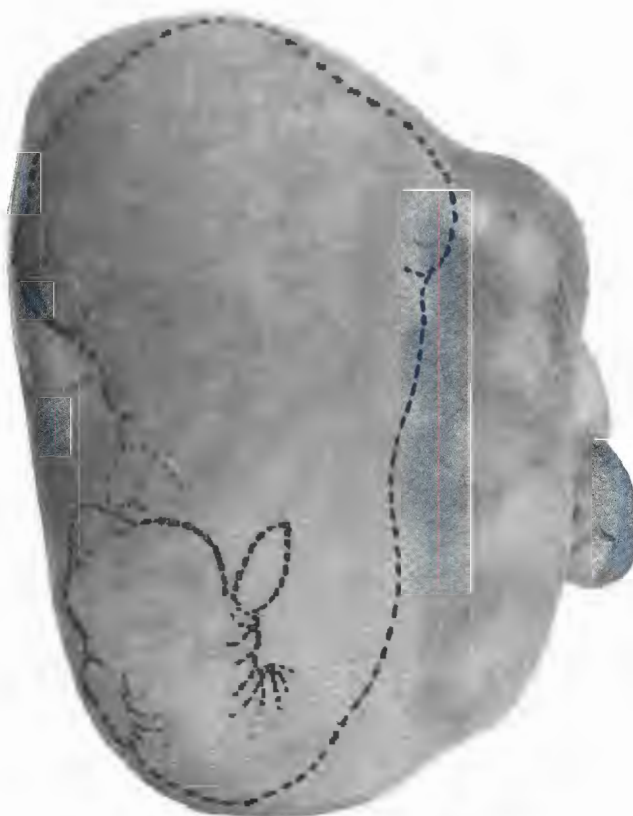


Fig. 6.—Uterus, 125 days pregnant, containing Foetus 43.

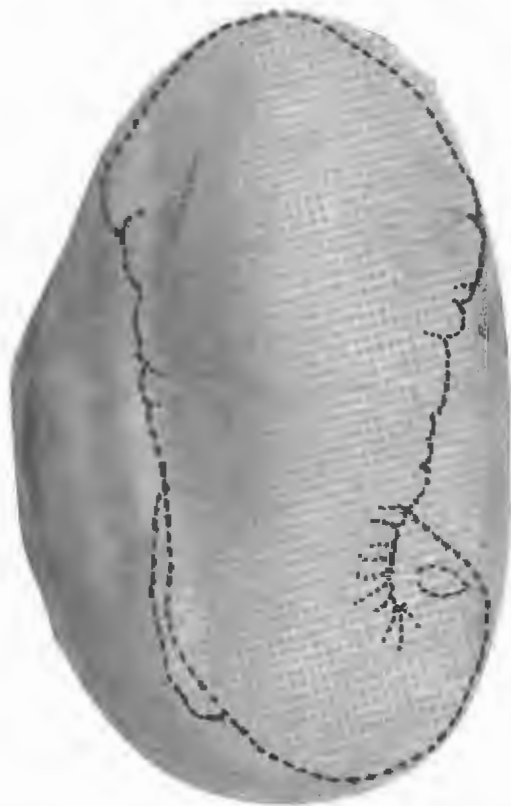


Fig. 7.—Uterus, 135 days pregnant, containing Foetus 44.

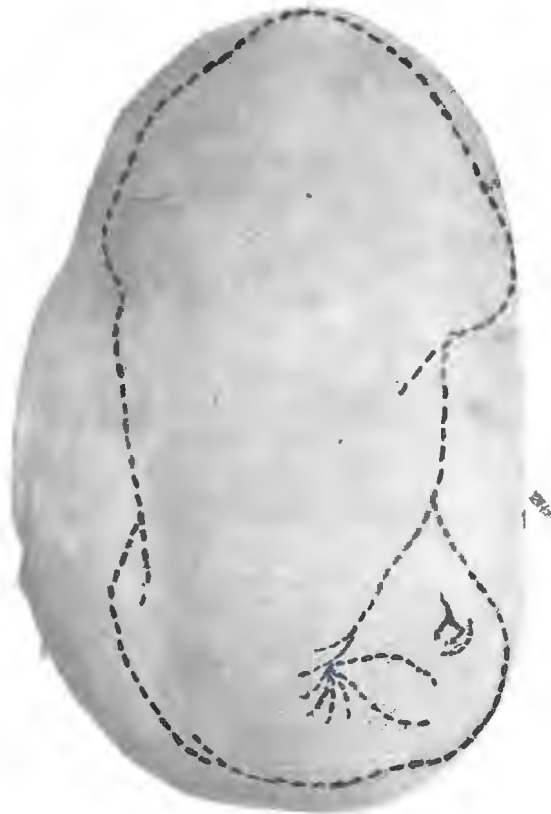


Fig. 8.—Uterus, 145 days pregnant, containing Foetus 45.

As to the relationship between the pregnant horn and the corresponding corpus luteum verum, details regarding the earlier genitalia (of Study 10) are recorded in Study 11 (Curson). It now remains to supply information on the additional genitalia recently furnished from Grootfontein.

Of the 7 sheep, the *usual* state of affairs pertained in all cases, namely, the foetus was situated in the horn corresponding with the ovary from which the ovum in question arose. In two cases [Nos. F (a) and 43] the *corpus luteum verum* and pregnant horn were on the left side and in the remaining cases [Nos. G (a), H, 42, 44, and 45] these structures were on the right side. There was thus no *migration* of the ovum. Of the entire series of 43 single pregnancies 41 foetuses developed on the same side as the ovulating ovary. This in 17 cases was on the left side and 24 on the right side.

SUMMARY.

It is clear that this paper is merely an addendum to Study 10 (dealing with the situation of the developing Merino foetus *in utero*) and Study 11 (concerning the relationship between the pregnant horn and its associated *corpus luteum verum*).

MATERIAL STUDIED.

The females used in the foregoing observations were selected at random from the Merino flock maintained at the Grootfontein School of Agriculture. They were of mixed ages, ranging from 4-tooth to full-mouth. Different rams, bred in the Grootfontein Stud, impregnated the ewes.

Vasectomised teasers were placed among the flock once a day and all ewes showing oestrus were separated for service. Each ewe was held to facilitate proper service by the rams. In this way the exact hour of service of every ewe was known.

Both before service and during pregnancy the ewes grazed on Karroo veld, which was moderately good. All carcasses were in a condition fit for human consumption.

At intervals the ewes were killed and the genital organs removed, the tract being severed at the posterior extremity of the cervix. The pregnant uteruses were generally weighed immediately on removal and afterwards placed in a 10 per cent. formalin solution and railed from Grootfontein to Onderstepoort.

REFERENCES.

- CURSON, H. H., AND QUINLAN, J. B. (1934). Studies in Sex Physiology, No. 10: The situation of the developing foetus in the Merino sheep. *Onderstepoort Jnl. Vet. Sc. and Animal Industry*, Vol. 2, No. 2.
- CURSON, H. H. (1934). Studies in Sex Physiology, No. 11: The relationship between a corpus luteum verum and the corresponding pregnant horn. *Id.* Vol 3, No. 1, p. 133.