

## **PALPATION OF REPRODUCTIVE ORGANS AND PREGNANCY DIAGNOSIS IN EWES USING BIMANUAL TECHNIQUE**

**C. Ibraheemkutty**

**Department of Animal Reproduction  
College of Veterinary and Animal Sciences  
Mannuthy, Thrissur**

In large ruminants gynecological examination and pregnancy diagnosis are easily done through the simple technique of per rectal palpation while smaller body size of sheep and goats makes these approach difficult (Morrow, 1980). Eventhough, various techniques have so far been reported for pregnancy diagnosis, there is absolute lack of a simple clinical method for assessment of reproductive function, infertility diagnosis and detection of early pregnancy in small ruminants. Studies have shown that a large proportion of small ruminants are slaughtered at some stage of pregnancy (Nair and Raja, 1978) and is mainly attributable to the lack of a simple and easy method for pregnancy diagnosis. So also clinical management of infertility in small ruminants is a matter of dilemma to veterinarian, since internal reproductive organs can not be palpated in these species as in the case of large ruminants.

A simple technique of bimanual palpation was evolved by the author at Kerala Agricultural University Goat Farm. The technique was found to be

very useful in goats for examination of internal reproductive organs including ovaries in most of the cases, for easy diagnosis of pregnancy and to some extent for infertility correction (Kutty and Sudarsanan, 1996; Kutty and Mathew, 1995; Kutty and Mathew, 1996 and Kutty and Mathew, 1997). The present study was carried out to compare effectiveness of the technique in sheep since both the species have almost similar physical and physiologic characteristics.

### **Materials and Methods**

The study was carried out at Municipal slaughter house, Thrissur. Thirty ewes brought for slaughter (no information was available regarding the reproductive status) were examined using abdominal palpation and subsequently bimanual technique (Kutty and Mathew, 1996) before slaughter and confirmation of palpation findings and assessments were done through post-slaughter verification. For this, immediately after opening of the carcass, reproductive organs were exteriorised and examined for morphological details.

The animals were examined in standing position restrained by an attendant. The examination was carried out by introducing the left index finger through the rectum by the examiner sitting in level with the pelvis of the ewe. Retroversion of the tubular reproductive tract was done by abdominal manipulation using right palm held vertically and brought upwards through the floor of posterior abdomen. Palpation of

the tubular reproductive tract and ovaries were attempted in between the fingers. Changes in size, shape, symmetry, surface characteristics and consistency of the tubular genital tract were assessed and the findings were recorded.

### Results and Discussion

The details of pre-slaughter examination findings are given in Table

**Table. Findings of the pre-slaughter bimanual palpation in ewes**

Palpation criteria	Observed cases Out of 30 ewes	Palpation criteria	Observed cases
External ballottement of foetus possible	3	Non gravid uterus and cervix palpable	21
Foetal parts palpable	4	Under grown uterus	1
Placentomes palpable	6	Slight asymmetry of uterine horns	6
Internal ballottement	7	Uterus rough surfaced with restricted mobility	1
Hypertrophy of cervix	5	Gross alteration in cervical size or shape	3
Pre-pubic position of uterus	8	Both ovaries palpable	13
Complete retroversion possible	3	At least one ovary palpable	19
Marked distension of uterus or asymmetry	9	No ovary palpated	2
Advanced pregnant	4	Abnormally larger ovary	1
Early pregnant	5	Non pregnant	21

Among the 30 ewes examined 9 (30%) were diagnosed pregnant of which 4 were in advanced pregnancy wherein diagnosis was possible by abdominal ballottement alone. In these animals the cervix, placentomes and foetal parts could be palpated using bimanual technique. The cervix was hypertrophied and was pre-pubic in position and uterus was intra-abdominal. In rest of the animals abdominal ballottement was not successful to diagnose pregnancy, but diagnosis was done based on the clear distension of uterine horns palpated bimanually and retroversion of the uterine horns into pelvis was possible. Small placentomes were palpated in two of these animals and in another ewe distension of both horns with clear asymmetry of the right horn could be appreciated. However, in none of these pregnant ewes ovaries were palpated bimanually. The diagnoses were found to be true on post-slaughter verification.

Among the 21 (70% ) non-pregnant animals cervix, uterus and uterine horns could be palpated in all the cases, though, palpation of ovary was variable. In one ewe tubular tract was undersized while among the rest, 6 animals had slight asymmetry of either left or right horn on palpation. In one of the ewe uterine mobility was restricted and consistency and surface characteristics of uterus were different from others. On post-slaughter verification, it was found to

be due to perimetritis and adhesion of uterine horns to the adjoining tissues. Both ovaries could be palpated in 13 (61.90%) of ewes, while at least one of the ovaries were palpated in 19 (90.48%) and none of the ovaries could be palpated in 2 (9.52%) of the non pregnant ewes. Approximate size and shape of ovaries recorded on bimanual examination were found to be almost the same on subsequent verification. In one ewe, unilateral ovarian cyst was also diagnosed.

The method was found to be useful in ewes irrespective of the body size and parity status. In some of the ewes inflated bladder was found to affect the palpation. In such cases inducing urination by gently pressing the bladder and re-examination was required for easier palpation. Since all the ewes were starved overnight distended rumen and pot-bellied conditions were not encountered in this study though such conditions may be of concern under farm situations. Palpation of cervix in some of the does has been mentioned by Morrow (1980) but a method suitable for palpating the entire reproductive tract of small ruminants have so far not been reported.

It is concluded that bimanual palpation technique used in this study was found to be very effective for the assessment of structural integrity, physiologic status, pregnancy diagnosis and detection of major pathological alterations of internal reproductive

organs of ewes to a major extent.

### Summary

Effectiveness of bimanual palpation technique for assessing the reproductive status and for diagnosis of pregnancy was studied in 30 ewes brought for slaughter at Municipal slaughter house, Thrissur. Ewes were examined using bimanual technique before slaughter and the findings of pre-slaughter examination were verified post-slaughter. Out of the 30 ewes examined, nine were found to be pregnant of which four were in advanced pregnancy diagnosed by abdominal palpation and rest of the five were diagnosed bimanually being early pregnant. Among the non-pregnants entire tubular reproductive tract were palpated in all of them irrespective of the body size and parity status. Among the 21 ewes both ovaries were palpated in 13 while at least one ovary in 19 and none of the ovaries palpated in two ewes. The findings were verified true and the method was found to be very effective in ewes for assessing the status of reproduction. Hence it is concluded that bimanual palpation provides a simple method for assessment of functional status of reproductive organs of ewes as in the case of goats reported earlier.

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