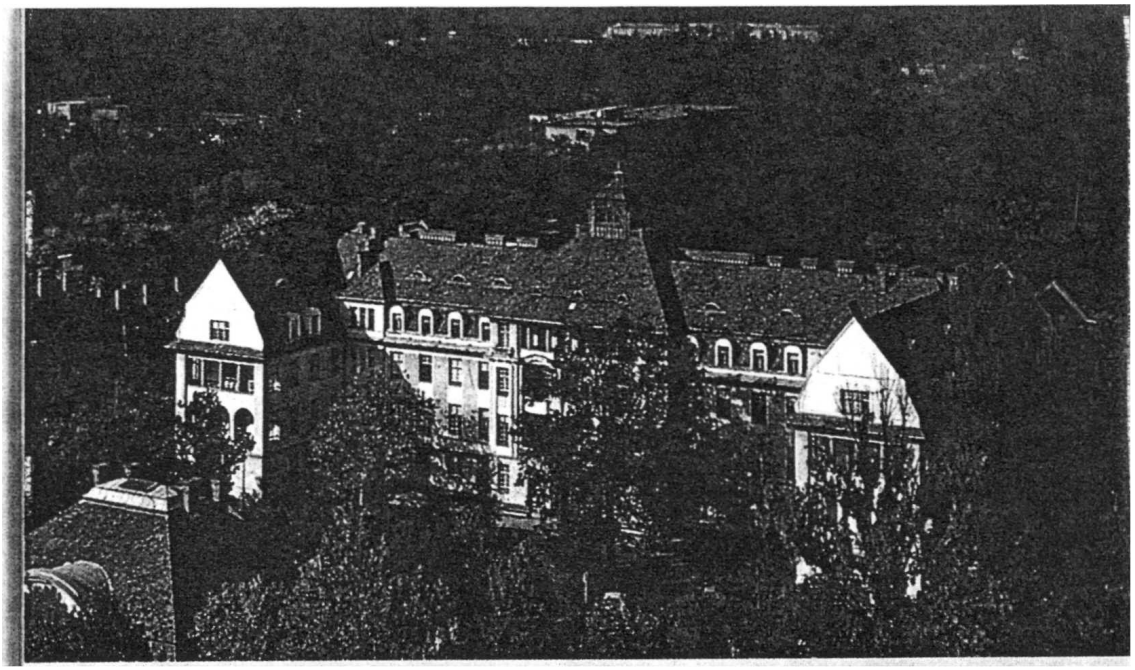

IV. INTERNATIONAL SYMPOSIUM
on the
PREGNANT UTERUS
Basic Science Aspects with
Clinical Implications

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FINAL PROGRAM & ABSTRACTS

DEPARTMENT OF OBSTETRICS
AND GYNAECOLOGY, UNIVERSITY MEDICAL SCHOOL OF DEBRECEN
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OF SCIENCES

ACTIVITY OF THE CERVIX AND PREGNANT UTERINE HORN IN EWE DURI C PREGNANCY AND PARTLJRITION

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A method for registration and analysis of electromyographic (EMG) data in the cervix and pregnant uterine horn in ewe was established. This method was used to find the differences between the smooth muscle EMG activity of the cervix and the uterine horn during pregnancy and parturition. The electrodes for differential detection were surgically implanted on the uterine surface. EMG signals were amplified, sampled and stored digitally in real time, and analyzed off-line in time and frequency domain. The root mean square (RMS) and median frequency (MF) were calculated for the observed periods in 1-minute intervals. The EMG activity was analysed for 8 periods observed during pregnancy and parturition. The EMG amplitudes, expressed as RMS values, showed that the electrical activity in the cervix was the highest in pregnancy, diminished significantly during labour and was the weakest immediately after delivery. The RMS value of the horn was very low until 55 days before delivery, increased during the rest of pregnancy, decreased just before labour and increased again significantly during labour and delivery. The MF was low during pregnancy, increased significantly during parturition in the cervix and in the horn, but it was higher in the cervix than in the horn. This study confirms that in ewe the electrical activity of the cervix differs from that of the horn in individual observed periods. We may conclude that the high activity of cervical circular muscular layer in pregnancy contributes to the constriction of the cervical canal.