**Case history**

An eight years old Nili-Ravi buffalo was examined near to parturition. The owner reported that the buffalo had been off feed for the last 48 hours. The buffalo had completed the normal gestation period about 15 days ago but did not show any sign of parturition.

**Clinical examination**

Physical examination of the buffalo revealed that temperature, pulse and respiration rates were within normal limits. On rectal palpation, the cervix was found completely closed and the placentomas were enlarged. The calf was in anterior presentation and the head of the calf grossly distorted with subcutaneous swelling on neck region and forelegs.

**Treatment**

After physical and rectal examination the following treatment was given IM for the induction of parturition (Morrow, 1980).

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
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<tr>
<td>Cloprostenol (Estrumate, ICI, U.K.)</td>
<td>500 µg.</td>
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<tr>
<td>Stilboestrol Dipropionate (Star Laboratories Pakistan)</td>
<td>80 mg.</td>
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<tr>
<td>Dexamethasone (Decadron, MSD, U.K.)</td>
<td>20 mg.</td>
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After 72 hours the animal was examined again through rectum and vagina. Rectal examination revealed that the foetus was closer to cervix than it was before treatment. Vaginal examination indicated partial dilation of the cervix. Above mentioned treatment was repeated at this stage and 48 hours following the treatment, animal was again examined. At this time the cervix had completely dilated with the foetus in the birth canal. Due to the excessive swelling of head, neck and legs, it was difficult to pull the foetus out. A diagnosis of anasarctic foetus was reached (Fig. 1 & 2). The foetus was removed through forced traction (Arthur et al., 1989). After the expulsion of foetus, foetal membranes were removed and the following treatment was given.

1. Utocyl pessaries 6 nos one day IU
2. Dextrose 5% with 1000 ml x 3 day IV normal Saline
3. Oxytocin 40 I.U one day IM
4. Streptopenicillin 5 gm x 5 day IM (Pfizer)
5. Cal-D-Mag (Pfizer) 300 ml x 3 day IV

IU = Intrauterine
IM = Intramuscular
IV = Intraventriculus

The owner was advised to give soft feed. The animal recovered in 10 days.
DISCUSSION

The embryonic period, when cell growth and differentiation are at their maximum, is the period of greatest susceptibility to teratogens and this is the time when the primitive germ layers and the organ rudiments are laid down (Singh and Hare, 1977). During the foetal period, only the later differentiating systems such as the palate, cerebellum and urogenital structures are vulnerable to teratogens (Eley et al., 1979).

Development of calves to normal or abnormal depends on the genetic make up of the foetus and the environment in which it develops (Wilson, 1977). Abnormal development occurs when a threshold of genetic and environmental insults is reached and the foetal compensatory mechanisms are overwhelmed (Fraser, 1976). Purely genetic defects can originate from the dam, sire or both and can often be traced using an extended pedigree. However, environmental teratogens usually have their effect on the embryo during organogenesis (Trasler and Fraser, 1977). Cytogenetic defects can develop from nutritional deficiency or excess (Hays, 1981), inhaled chemicals or gasses (Kaliter, 1968), chemicals (Berge and Nafstadt, 1983), drugs (Hays, 1981) and biotoxins (Cheeke and Shull, 1985). From the obstetrical aspect, future interest in the cytogenetic cases is of affected mother, which may show some mammary hypertrophy but mostly other parturition symptoms are not present. At the completion of normal gestation period, abnormal parturition mostly dystokia due to oversize foetus occurs. Thus either traction or foetotomy is recommended to effect the delivery (Arthur et al., 1989).

It is impossible to give a set of indications for methods applicable to all the possible foetal dystokia cases. The veterinarian has to evaluate each case individually. In the majority of cases of foetal dystokia delivery is achieved by correction and traction. In the present case this technique was found to be most successful in relieving dystokia. With this technique in occasional cases the dam may suffer with trauma to the pelvic organs and damage to the pelvic nerves may occur when traction is applied. Caesarean section, lapro-hysterotomy and foetotomy are other alternatives and are performed in cases when vaginal delivery is impossible. However, fertility may be adversely affected following the use of either of these techniques.

REFERENCES