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Caprine Caesarean section

A.F. Majeed, M.B. Taha and O.I. Azawi

Department of Surgery and Obstetrics, College of Veterinary Medicine, University of Mosul, Mosul, Iraq

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ABSTRACT

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Caesarean section (C.S.) was performed on 110 clinical cases of dystocia in Damascus and Black Iraqi goats referred to the Obstetric Clinic, College of Veterinary Medicine, University of Mosul, Iraq, during the kidding periods of 1985 to 1990. The incidence of animals treated with C.S. in relation to the total number of dystocia was 42.8% (110/257). C.S. was most common in primiparous does (61.8%) and 2-year olds (61.8%). The most common indications of C.S. in does were incomplete cervical dilatation (63.6%), oversized fetus (28.1%), vaginal prolapse (5.4%), fetal monsters (1.8%) and hernia (0.9%). A high success rate (96.3%), with good prognosis, was obtained in this study. Does having male kids appeared to be more likely to require C.S. (70.5%) than those having female kids (29.4%). Kid survival rate was 65.2%. Results showed that C.S. was the safest method of treatment for caprine dystocia if it was performed as early as possible.

INTRODUCTION

Dystocia or difficulty in kidding is a common obstetrical problem in all farm animals, which, unless relieved, leads to death of the fetus and sometimes to the death of the dam (Roberts, 1971; Arthur et al., 1982). It occurs in the domestic goat in approximately 3–5% of births and most cases are handled, at least initially, are by the breeder (Smith, 1980).

C.S. has been reported a safe method of kid delivery with a high success rate (Engum and Lyngset, 1970; Smith, 1980; Majeed and Taha, 1989). Most common indications for C.S. in goats include: incomplete cervical dilatation, oversized fetus, vaginal prolapse and presence of abnormal or emphysematus fetus in the uterus (Engum and Lyngset, 1970; Smith, 1980; Majeed and Taha, 1989). Complicating factors of infection, prolapse and trauma caused by the

Correspondence to: A.F. Majeed, Department of Surgery and Obstetrics, College of Veterinary Medicine, University of Mosul, Mosul, Iraq.

breeder during their attempt in the delivery play an important role in the result of C.S.

The objective of this study was to investigate C.S. in the doe, performed under clinical conditions, in an attempt to identify which factors are likely to influence the outcome of the case.

MATERIALS AND METHODS

The study was conducted on 110 clinical cases of dystocia in Damascus and Black Iraqi goats, which were brought by farmers referred to the Obstetric Clinic, College of Veterinary Medicine, University of Mosul, Iraq, during the kidding seasons of 1985 to 1990. Most of the dystocia cases were brought to the Obstetric Section 12 h after the onset of labour. Age of the animal ranged from 2 to 5 years and parity of kidding was from 1 to 4. Dystocia cases were diagnosed after careful vaginal examination. Does suffering from dystocia were subjected to one of the following treatments: (i) Correction of the mal-disposition and traction ($n=115$). (ii) Medicinal or hormonal treatment. The animals suffering from ringwomb were subjected to one of the following hormonal treatments alone or in combination with other drugs ($n=32$). (a) 2 mg of oestradiol benzoate i.m. (Intervet International B.V., Boxmeer, The Netherlands); (b) 30 ml of calcium borogluconate s.c., plus 2 mg of oestradiol benzoate i.m.; (c) 7.5 mg prostaglandin F2 (Prosolvin) i.m. (Intervet International B.V., Boxmeer, The Netherlands). (iii) Where delivery of the kid per vagina (manual or hormonal) was not possible, C.S. was performed to relieve dystocia in goats due to partial dilatation of the cervix (ringwomb), especially those with ruptured fetal membranes, oversized fetus, vaginal prolapse, fetal monsters and hernia. Surgery was performed on recumbent animals through a paramedian incision under local anesthesia using lidocaine HCl 3% (Cox, 1982). Antibiotic pessaries were placed in the uterine lumen, and antibiotic ointment as applied to the internal site of operation. Oxytetracycline was routinely administered intramuscularly daily for 5 days following surgery. Supportive therapy was administered as required (15 I.U. oxytocin i.m.). Animals with a good prognosis (animals showing no vaginal discharge, infected suture line or rise of temperature postsurgically) were classified as having a positive response to C.S.

The Chi-square test was applied for statistical analyses.

RESULTS AND DISCUSSION

The incidence of animals treated with C.S. in relation to the total number of dystocia was 42.8% (110/257). Similar findings have been observed by Engum and Lyngset (1970) and Majeed and Taha (1989). C.S. was most common in primiparous does (61.8%; 68/110) in all operations. There was

a significant difference in the incidence of C.S. between primiparous and multiparous does ($P < 0.01$). It has been reported that primiparous animals require more assistance than older ones (McSporran, 1980; Arthur et al., 1982).

The primary causes of dystocia requiring delivery of kids by C.S. are listed in Table 1. Incomplete cervical dilatation was considered to be the primary cause of dystocia requiring delivery of kids by C.S. and accounted for 63.6% (70/110) of the cases. This might be due to breed predisposition and/or hypocalcemia (Stubbings, 1971; Majeed and Taha, 1991).

The results of the different methods of treatments were shown in Table 2. C.S. showed a higher positive response (96.3%, 106/110), while manual correction and traction was 86% (99/115). Poor response was observed in the

TABLE 1

Primary causes of dystocia requiring delivery of kids by C.S.

Types of dystocia	No. of cases	Percentage
Ringwomb	70	63.63
Oversized fetus	31	28.18
Vaginal prolapse	6	5.45
Fetal monster	2	1.81
Hernia	1	0.90
Total	110	

TABLE 2

The results of different methods of treatments

Method of treatments	Number	Positive response	Efficiency (%)
Correction + traction	115	99	86
Medicinal or hormonal	32	20	62.5
Caesarean section	110	106	96.3

TABLE 3

Birth type, sex and survival of the kid

Birth type	Number	Percentage	No. of kids	A/D ¹	M/F ²
Single	44	40	44	28/16	36/8
Twins	52	47	104	72/32	70/34
Triplets	14	13	42	24/18	28/14
Total	110		190	124/66	134/56

¹Alive/dead.²Male/female.

hormonal- and medical-treated group (62.5%, 20/32). These findings are in agreement with Engum and Lyngset (1970). Smith (1980) and Majeed and Taha (1989).

Fetal dystocia occurred due to an oversized fetus in 31 cases (28.18%). Animals bred at 1 year of age accounted for 61.8% of these cases. Careful selection of does based on adequate size, and not sexual maturity, and choice of a small breed sire would result in reduction in the number of dystocias.

Vaginal prolapse was observed in six does (5.4%) at the time of surgery; one died and five survived. Fetal monsters and hernia associated with C.S. had an incidence of 1.8 and 0.9%, respectively.

Does having male kids were more likely to require C.S. (70.5%) than those having female kids (29.4%) (Table 3) ($P < 0.01$). Similar observations have been made in goats (Lyngset, 1970; Majeed and Taha, 1989) and sheep (Elving et al., 1985; Taha et al., 1987; Scott, 1989). Higher incidence of C.S. in does bearing male kids might be due to their higher birth weight (Lyngset, 1970; Majeed and Taha, 1989).

Survival rate for kids from C.S. was 65.2%. Mortality may have resulted from dystocia and iodine deficiency since 16 kids showed clinical signs of goiter (Dawood and Muslih, 1988). Goiter increases neonatal mortality which in turn disturbs the mechanism of parturition that leads to dystocia (Roberts, 1971). Four does died (3.6%). Rupture of the uterus was found during surgery in one doe.

Does which delivered alive or freshly dead kids by C.S. made an eventful recovery following surgery. A high success rate (96.3%), with good prognosis, was obtained in this study.

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