

RELATIVE EFFICACY OF VARIOUS TREATMENT PROCEDURES EMPLOYED TO RELIEVE DYSTOCIA IN CANINES

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ABSTRACT

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Studies were conducted to analyze the efficacy of different treatment procedures employed to relieve dystocia in bitches (n=240). In the present study medical treatment using oxytocin, calcium and dextrose either alone or in combination was employed to treat only cases of primary complete or primary partial uterine inertia and the treatment protocol was successful in only 16.67 per cent of the cases. Nearly 83 per cent of cases of primary uterine inertia failed to respond to medical treatment and had to be subjected for cesarean section. The vaginal manipulative procedures to relieve dystocia using gloved finger or sponged forceps was successful in relieving 15.41 per cent of cases of obstructive dystocia and the rest had to be subjected for cesarean section. Cesarean section had to be carried out in 67.91 per cent of all cases of dystocia encountered in the present study. The higher frequency of cesarean section employed to relieve dystocia in small animals may possibly due to small size of the animal, multiparous nature, long duration of delivery and demands by the owner to deliver as many live puppies as possible.

Key words: Canine, Dystocia, Caesarean section

Over the last two decades, there has been a tremendous increase in the number of pedigreed dogs, particularly in the urban areas with the kennel owners even importing fancy breeds, at an exorbitant price. In view of considerable economy and owners concern involved, it becomes extremely important to carry out comprehensive studies with regard to selection of treatment procedures in an attempt to reduce the incidence of mortality of the dam and the neonate. Depending on the underlying causes of dystocia, the obstetrician has three treatment procedures at his disposal: namely a). Augment uterine contractions using ecbolics b). Attempt digital manipulation or forceps delivery or c) performs a

cesarean section. The choice of treatment is largely dictated by the ability of the obstetrician to identify the cause of dystocia, the general health of the mother, the viability of the fetuses and the familiarity with different obstetrical procedures employed.

The efficacy of various treatment procedures employed to relieve dystocia in bitches was studied by analyzing the data generated from clinical cases of dystocia handled during the course of present study presented to the department of Veterinary Gynaecology and Obstetrics, Veterinary College, Hebbal, Bangalore from January 2008 to May 2009. The selection of treatment procedure employed was primarily based on the cause of dystocia and one of the following treatment protocols was employed to relieve dystocia, Medical management, Vaginal manipulation and Caesarean section.

Medical treatment was carried out only in those cases of dystocia where the cause was diagnosed either as complete primary uterine inertia or partial primary uterine inertia. The medical treatment

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consisted of intravenous administration of 25 per cent Dextrose, oxytocin @ 0.1 IU / kg body weight and 10 per cent calcium gluconate @ of 0.5 ml / kg body weight (but not exceeding a total dose of 10 ml). Oxytocin was administered for a maximum of three injections, the interval between injections being not less than 30 minutes. Calcium gluconate was administered only once. Animals failing to respond to medical treatment were immediately subjected for caesarean section.

Vaginal manipulative procedures were adopted in cases of dystocia diagnosed to have been caused by presentation, position and postural abnormalities of the fetus or structural abnormalities of the reproductive tract interfering with the normal passage of the fetus such as bands of septum in the vagina or an incompletely relaxed vagina and vulva. The vaginal manipulation was carried out following all aseptic precautions and using either a gloved finger or a vaginal sponge forceps. Cases of dystocia which could not be relieved through vaginal manipulative procedures were immediately subjected for caesarean section.

Caesarean section as the first line of treatment was carried out in those cases of dystocia caused by pelvic bone abnormalities or complete primary uterine inertia which in the opinion of the obstetrician does not respond to conventional medical treatment. It was also the only line of treatment carried out in protracted cases of dystocia characterized by fetal death and emphysema and maternal septicemia. Caesarean section was also carried out on those cases which failed to respond to medical treatment or vaginal manipulative procedures.

In the present study administration of oxytocin alone and oxytocin along with dextrose and calcium successfully relieved dystocia in 16.67 per cent (40/240) of cases of primary complete uterine inertia. The result obtained in the present study is higher than 6.9 per cent success rate obtained by Gaudet (1985) using oxytocin alone. Perhaps, a slightly higher success rate obtained in the present study

may be due to the inclusion of dextrose and calcium as a part of medical management of primary uterine inertia. It is possible that some cases of uterine inertia are caused by subclinical hypocalcaemia and hypoglycemia. Several authors have documented the beneficial effect of calcium and dextrose in bitches with dystocia due to uterine inertia (Smith, 1965; Bennett, 1974; Donovan, 1980). Hypoglycemia has also been documented to cause uterine inertia during parturition (Buckner, 1979). The successful correction of uterine inertia due to hypoglycemia by intravenous administration of glucose solution has been reported by Bennett (1974), Grenier (1974) and Jones and Joshua (1988). Nevertheless, nearly 83 per cent of cases of primary uterine inertia failed to respond to medical treatment and had to be subjected for cesarean section.

In trying medical therapy, an obstetrician may be losing valuable time in terms of life of the puppy as oxytocin injections may induce enough contractions of the uterus to cause separation of the placenta but not the expulsion of fetus. Further, oxytocin may also cause constriction of umbilical cord leading to fetal anoxia and subsequent fetal acidosis. It is therefore seems reasonable to suggest that cesarean section should be the first line of treatment for all cases of primary complete uterine inertia to maximize fetal survival rate. The success rate using medical therapy was much more encouraging in cases of primary partial uterine inertia, with nearly a third of all cases responding to medical therapy. Typically, in these cases, the bitch had delivered one or more fetuses and subsequently the uterine contractions had ceased to resume.

In the present study, fetal dystocia were encountered in a relatively low frequency (36.66%) and vaginal manipulative procedures using gloved fingers or sponge forceps was successful in relieving 15.42 per cent (37/240) of cases of obstructive dystocia and the rest had to be subjected to cesarean section. Vaginal manipulative procedures are not frequently employed by the Veterinary Obstetrician to relieve dystocia in bitches. Vaginal manipulative

procedures are extremely useful to relieve obstructive dystocia particularly when the fetus is dead.

In the present study, dystocia could be relieved only by cesarean section in 67.91 per cent (163/240) cases encountered during the course of this investigation. In a retrospective study of 116 cases, Gaudet (1985) reported that nearly 60 per cent of cases required cesarean section. In a similar retrospective study of 182 cases of canine dystocia, Darveild and Linde Forsberg (1994) reported that 65.7 per cent of bitches with dystocia required cesarean section. These reports as well as the results of the present investigation clearly indicate that cesarean section is the most common form of treatment to relieve dystocia in canines. The frequency of conducting cesarean section to relieve dystocia in canine is far higher than in large ruminants. It is possible that the small size of the animal, multiparous nature, a long duration of delivery and the demands by the owner to deliver as many live puppies as possible due to commercial considerations may force the obstetrician to increasingly employ cesarean section in bitches.

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