

Case Study

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## Handling of Dystocia due to Single Pup Syndrome in Labrador Bitch: A Case Report

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### ABSTRACT

#### Keywords

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Successful handling of dystocia due to single puppy syndrome in a Labrador bitch in her first parity with history of mating 68 days ago and failure to deliver on expected date of whelping. On examination per vaginal limbs was palpable without any movement. On radiographic examination, it was revealed presence of single fully grown fetus with posterior presentation in uterus. This case was handled successfully with repeated doses of oxytocin and calcium therapy with fluids.

### Introduction

Dogs are polytocous animals with overall mean litter size of 5.4 (range 1 - 18) (Borge *et al.*, 2011). But in some instances, single fetus pregnancy is observed in bitches termed as “single pup syndrome” (Jackson, 2004).

A single puppy can cause several problems at the time of whelping; hence this condition is considered as a high-risk pregnancy. In single pup syndrome, there may be inadequate cortisol release from the foetus to initiate PGF<sub>2</sub> release by the endometrium, which initiates CL regression and whelping (M. H. Pitroda, 2019). Due to Zonary nature of the

canine placenta, once a fetus exceeds its due date by more than 2 day, it will demand more nutritional support than the placenta is able to provide, Resulting in intrauterine fetal death.

Hence it is critical to ensure that fetus has attained but not exceeded, Its maximal gestational age prior to delivery (Jayakumar, 2017).

There are several etiological factors responsible for Singleton puppy syndrome, which include breeding of older animals, Death of embryos during early gestation and resorption of embryos before mineralization.(M. H. Pitroda,2019).

### **Case history and observations**

A Two year old Labrador she dog in her first parity was presented to Veterinary Clinical Complex (VCC), Post Graduate Institute of Veterinary Education and Research (PGIVER), Jamdoli, Jaipur with the history of breeding approximately 68 days before and failure to deliver on the expected day of whelping.

Clinical examination revealed restlessness and presence of greenish discharge hanging out from vulva with limbs of pup or fetal membrane in the birth canal. During the course of examination engorged mammary glands were also observed. A lateral abdominal radiograph from right side was performed which confirmed the presence of single fully-grown fetus with posterior presentation in the uterus. After confirmation by radiograph and clinical examination the

case was diagnosed as dystocia because of the single pup in the bitch.

### **Treatment and Discussion**

The medical treatment for dystocia due to single puppy syndrome was attempted with Inj. Calcium Sandoz 10% (Novartis; 10 ml) (Every 5 min. Interval 2 ml calcium Sandoz, slow IV), After 15 min. Inj. Oxytocin 0.4ml (5 IU) Slow IV With Inj. Dextrose 250 ml Intravenous. Wait for 2 hrs during this period increase uterine contraction and amount of greenish discharge but fails to deliver pup. After two hours inj. calcium Sandoz 10% (Novartis; 8 ml) (Every 5 min. Interval 2 ml calcium Sandoz, slow IV), after 10 min Inj. Oxytocin 0.8ml (5 IU) (divided two dose of 0.4 ml interval, every 3 min. interval) Slow IV With Inj. Dextrose 250 ml Intravenous. After 10 min mature dead fetus was delivered.

**Fig.1** Greenish vaginal discharge during the course of treatment.



**Fig.2** Radiograph of the bitch confirmed presence of one fully developed fetus.



**Fig.3, 4** Mature dead fetus delivered per Vaginally.



The dystociadue to single puppy syndrome can be diagnosed by radiography and ultrasonography and treated by fluid therapy along with oxytocin and calcium.

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