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## Pandiri Keerthana

PhD Scholar, Department of  
ARGO, NVC, Nagpur,  
Maharashtra, India

## MS Bawaskar

Professor, Department of  
ARGO, NVC, Nagpur,  
Maharashtra, India

## DS Raghuwanshi

Professor, Department of  
ARGO, NVC, Nagpur,  
Maharashtra, India

## AP Gawande

Professor, Department of  
ARGO, NVC, Nagpur,  
Maharashtra, India

## MS Patil

Professor, Department of  
ARGO, NVC, Nagpur,  
Maharashtra, India

## Successful medical management of dystocia due to secondary uterine inertia in a rabbit doe

Pandiri Keerthana<sup>1</sup>, MS Bawaskar<sup>2</sup>, DS Raghuwanshi<sup>3</sup>, AP Gawande<sup>4</sup>, MS Patil<sup>5</sup>

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### ABSTRACT

Dystocia is relatively uncommon in rabbits, but delayed fetal expulsion can occur when uterine contractions become inadequate. The present case describes secondary uterine inertia in a 3-year-old rabbit doe presented after delivering three live kits but continuing to strain without expelling the remaining fetus. Clinical examination revealed dullness, restlessness, and anorexia, while abdominal palpation and radiography confirmed a retained fetus. The doe was treated with oxytocin (1–2 IU, intramuscularly) and calcium (1 mL, intramuscularly). Within approximately 30 minutes, effective straining resumed and a dead fetus was expelled. Postpartum treatment with ceftriaxone, chlorpheniramine, and multivitamins was provided. The doe recovered uneventfully, with normal activity returning within one week. This case highlights the importance of recognizing secondary uterine inertia as a potential cause of incomplete parturition in rabbits following an otherwise apparently normal delivery. Timely diagnosis and appropriate medical management may help achieve successful fetal expulsion and reduce maternal and fetal complications.

**Keywords:** Rabbit doe, Dystocia, Secondary uterine inertia, Oxytocin, Calcium, Retained fetus, Parturition

### Introduction

Dystocia is defined as difficulty or failure in the normal expulsion of fetuses during parturition. It can occur due to either maternal or fetal factors (Pretzer, 2008) [1]. Maternal causes may include pelvic abnormalities, reproductive tract disorders, and inadequate uterine contractions, whereas fetal causes include abnormal presentation, position or posture, excessive fetal size, congenital abnormalities, and fetal death (Narwade *et al.*, 2024) [2]. Dystocia is relatively uncommon in rabbits because normal parturition is generally rapid and is usually completed within approximately 30 minutes. However, disturbances in uterine contractility can occasionally interfere with normal delivery. Uterine inertia is considered one of the important causes of dystocia in rabbits (Yadav *et al.*, 2023) [3]. It may be classified as primary or secondary. Primary uterine inertia occurs when effective uterine contractions fail to develop, whereas secondary uterine inertia occurs when contractions initially develop normally but later become weak or cease before all the fetuses are delivered (Arizmendi *et al.*, 2017) [4].

### Material and methods

A 3-year-old rabbit doe was presented to the Teaching Veterinary Complex, Nagpur Veterinary College, Maharashtra, with a history of having delivered three live kits approximately 12 hours earlier. Despite the initial successful delivery, the doe continued to strain but failed to deliver the remaining fetus. On clinical examination, the doe appeared dull, restless and anorectic. The rectal temperature was recorded as 102 °F. Abdominal palpation suggested the presence of a retained fetus, which was subsequently confirmed by radiographic examination. Based on the history, clinical findings, and radiographic evidence, the case was diagnosed as dystocia associated with secondary uterine inertia. (fig no.1)

The doe was treated with oxytocin at a dose of 1–2 IU administered intramuscularly, along with 1 mL of a calcium preparation by the intramuscular route. Following treatment, the doe was kept in a quiet and undisturbed environment to minimise stress and allow the uterus to respond to the medication. Approximately 30 minutes after treatment, the doe began to exhibit effective straining and subsequently expelled a dead fetus. (Fig. No. 2)

### Corresponding Author:

#### Pandiri Keerthana

PhD Scholar, Department  
of ARGO, NVC, Nagpur,  
Maharashtra, India



**Figure 1.** Radiographic image showing fetus



**Figure 2.** Dead fetus

Following delivery, ceftriaxone sodium was administered at a dose of 50 mg/kg body weight intramuscularly for three consecutive days. Chlorpheniramine maleate was administered at 1 mg/kg body weight intramuscularly for three days. In addition, multivitamin syrup was administered orally at a dose of 1 mL daily for 20 days.

## Result and discussion

The doe responded well to treatment and recovered without any apparent complications. Its general health and activity returned to normal within one week. Dystocia is not commonly reported in rabbits because normal parturition is usually rapid and uncomplicated. Nevertheless, problems affecting uterine contractility or fetal expulsion can occasionally interfere with the completion of parturition. In the present case, the doe initially delivered three live kits normally but subsequently failed to deliver the remaining fetus. Oxytocin is commonly used to stimulate uterine contractions and can be beneficial in cases where inadequate uterine activity is responsible for delayed or incomplete fetal expulsion. In rabbits, low doses of oxytocin administered intramuscularly have been reported to stimulate uterine contractions and facilitate fetal delivery. Calcium also has an important role in muscle contraction and may help support myometrial activity when administered along with oxytocin (Gruaz *et al.*, 2017 and Nekibuddin *et al.*, 2022) [5]. In the present case, administration of

oxytocin in combination with calcium was followed which resulted in effective expulsive efforts and successful delivery of the retained fetus. The favourable response suggests that medical stimulation of uterine activity can be effective in selected cases of secondary uterine inertia. However, uterotonic drugs should be used only after careful assessment of the doe and fetus, particularly to rule out mechanical obstruction or other conditions that could make uterine stimulation inappropriate.

## Conclusion

Secondary uterine inertia should be considered as a possible cause of dystocia in rabbit does that continue to strain after delivering one or more kits but fail to complete parturition. In the present case, the combined administration of oxytocin and calcium resulted in the resumption of effective uterine contractions and successful expulsion of the retained fetus. The doe subsequently recovered without apparent complications. Early recognition of dystocia, appropriate diagnostic evaluation, and timely intervention are important for reducing maternal complications and fetal losses in affected rabbit does.

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