

Case report: Natural birth of quadruplet calves from an ongole grade cow in Central Java

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ABSTRACT

This case report documents a rare instance of natural quadruplet birth in a five years old Ongole-grade cow owned by a smallholder farmer in Sidomulyo Village, Rembang, Central Java. On May 17, 2025, the cow delivered four calves one male and three females without the need for surgical intervention. The delivery was facilitated by a local veterinarian and a livestock officer. Although all calves were born alive, their birth weights were low, attributed to intrauterine crowding. Postpartum care for the cow included nutritional support and veterinary monitoring. Despite these interventions, all calves and the dam succumbed within a week. This case underscores the significant risks associated with multiple births in cattle under smallholder conditions and highlights the urgent need for enhanced management practices, veterinary support, and policy attention to avert similar outcomes in the future.

Introduction

Multiple births in cattle are rare, with twin births occurring in less than 5% of the cases, and higher-order multiples (triplets or quadruplets) are extremely uncommon (Hartati *et al.*, 2015). The frequency of multiple births varies among cattle breeds and is influenced by factors such as genetics, dam age, and environmental conditions. In dairy cattle, the incidence of twinning is generally higher than in beef cattle, with some studies reporting rates of up to 8% in certain dairy breeds (Johansson *et al.*, 2009). Ongole-grade cattle, a local crossbreed of *Bos indicus*, are widely kept in Indonesia, particularly by smallholder farmers. These cattle are valued for their hardiness, adaptability to tropical climates, and dual-purpose utility for both meat and milk production (Agus and Widi, 2018; Hastarina *et al.*, 2025). The Ongole breed, originally from India, was introduced to Indonesia in the early 20th century and has since been crossbred with local cattle to create the Ongole-grade variety (Sutarno and Setyawan, 2015). This crossbreeding has resulted in animals that are well-suited to the Indonesian agricultural landscape and smallholder farming systems.

Reports of quadruplet births in Ongole-grade cattle are virtually non-existent, making such cases scientifically and agriculturally noteworthy. Government involvement is crucial, particularly in terms of establishing breeding zones and providing consistent, intensive support. In Rembang Regency, designated breeding areas for Ongole-grade cattle have been established since 2017 in the Kragan District and surrounding areas such as Sulang and Sedan. However, the support systems in place still require substantial improvement, particularly in the consistency of program implementation. Given the rarity of such births and the vital role (Indahwati *et al.*, 2022). The rarity of quadruplet births in this breed, combined with the economic importance of Ongole-grade cattle to Indonesian farmers, underscores the significance of documenting and studying such occurrences (De Rose and Wilton, 1991). Understanding the factors contributing to multiple births in this breed could potentially lead to improved breeding strategies and management practices for smallholder farmers, ultimately enhancing the productivity and sustainability of cattle

farming in Indonesia. Although the birth of quadruplet calves is a rare and remarkable event, it comes with significant risks and potential losses for both mother cows and calves (Eriksson *et al.*, 2022). The gestation period of multiple calves is often shorter, leading to premature birth and under-developed calves. This increases the likelihood of stillbirth or calves that are too weak to survive (Basiel *et al.*, 2023). Maternal cows face heightened risks during pregnancy and delivery, including increased stress on their body, potential complications during birth, and a higher chance of retained placenta or uterine infections.

Economically, farmers may incur substantial veterinary costs for specialized care and face potential losses if calves or mothers do not survive. Additionally, even if all calves survive, they may require intensive care and supplemental feeding, as the mother's milk production may be insufficient to support all four calves simultaneously. The objective of this case report was to document and analyze the rare occurrence of a natural quadruplet birth in an Ongole-grade cow in Central Java, Indonesia.

Case presentation

On May 17, 2025, a five years old Ongole-grade cow belonging to a smallholder farmer owner nama Mr. Salam in Sidomulyo Village, Sedan District, Rembang Regency, Central Java (Latitude: 6.76477368559206°S; Longitude: 111.5534637511007°E), gave birth to quadruplet calves. Delivery occurred naturally, without the need for surgical intervention. Four calves one male and three females were born alive and assisted by a local paramedic veterinarian and livestock extension officer, namely Mr. Agus Susanto.

Results

Following parturition, the cow remained conscious but did not stand upright for an extended period, opting instead to remain seated without exhibiting any overt signs of dystocia or physical injury (Fig. 1.). A paramedic veterinary examination confirmed complete placental expulsion, with no indications of retention or hemorrhage. During the early

postpartum phase, the cow was provided with additional nutritional support, including high-energy concentrates, mineral supplements, and sufficient water intake. However, due to the farmer's limited expertise in livestock management prior to calving, daily veterinary monitoring was not conducted. Although the calves initially appeared healthy and survived for the first two days postpartum (Fig. 2.), they subsequently exhibited signs of weakness and deterioration. One calf perished on the third day, followed by another on the fourth day. By the sixth day, all four calves had succumbed, likely due to complications related to prematurity, inadequate nutrient intake, and limited maternal milk production. The concurrent demise of the calves suggests systemic exhaustion and metabolic stress that surpassed the support capabilities of small-scale farming conditions.



Fig. 1. The condition of the dam and calf after giving birth.



Fig. 2. Quadruplet calves.

Discussion

At birth, all calves showed signs of viability (active movement, breathing, and responsiveness). Their individual birth weights were below the average for single calf, consistent with intrauterine crowding. The dam was monitored for postpartum complications and provided additional nutritional and veterinary care. She remained in stable condition during the immediate postnatal period. The birth of quadruplet calves to an Ongole-grade cow presents a complex situation. This event offers a unique opportunity to study multiple births in cattle, potentially providing valuable insights into bovine reproductive biology and genetics. However, it also raises concerns about the health and survival of the calves and the cow, necessitating intensive veterinary care and specialized management practices to ensure the well-being of all animals involved (Small *et al.*, 2000; Widmer *et al.*, 2021).

While the birth of quadruplets is a rare event, it poses substantial risks to the survival of both the calves and the cow. In this situation, the death of all calves and the cow represents a worst-case outcome, highlighting the severe challenges associated with multiple births in cattle. Several factors could have contributed to this unfortunate result, including premature birth, low birth weights due to intrauterine crowding, maternal stress, insufficient colostrum and milk production, post-partum complications, and limited resources available to smallholder farmers. The loss of all animals in this case underscores the need for improved management strategies and support systems for farmers dealing with multiple births in cattle (Chagunda *et al.*, 2015). This could include enhanced pre-natal monitoring to identify multiple pregnancies early, preparation for potential complications, development of feeding protocols for multiple calves, and education and training for farmers on managing high-risk pregnancies and births. These measures could help mitigate the risks associated with multiple births and improve outcomes for both the mother and calves. While the outcome in this case was tragic, it provides valuable insights into the challenges of multiple births in cattle. Future research and extension efforts should focus on developing practical, cost-effective strategies to support farmers in managing these complex situations. By addressing these challenges, it may be possible to improve survival rates and overall welfare in cases of multiple births, ultimately benefiting both the animals and the farmers who care for them. Nevertheless, breeders of Ongole crossbred cattle tend to prioritize reproductive efficiency over the occurrence of twin births (Indahwati *et al.*, 2021). This case study serves as a call to action for veterinary professionals, researchers, and policymakers to collaborate on developing comprehensive solutions to support farmers facing similar situations in the future.

Conclusion

This case report documents a rare instance of natural quadruplet birth in a five years old Ongole-grade cow in Central Java, Indonesia. On May 17, 2025, the cow delivered four calves one male and three females without surgical intervention. Although all calves were born alive, their birth weights were low due to intrauterine crowding. Despite postpartum care, including nutritional support and veterinary monitoring, all calves and the dam succumbed within a week. This case highlights the significant risks associated with multiple births in cattle under smallholder conditions and emphasizes the need for enhanced management practices, veterinary support, and policy attention to prevent similar outcomes in the future.

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Conflict of interest

The authors have no conflict of interest to declare.

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