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Dystocia due to incomplete cervical dilatation and vaginal prolapse in a sow and its management: A case report

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Abstract

A crossbred pregnant gilt was attended in its first stage of labour with closed cervix and first degree vaginal prolapse. As per the owners report, the labour initiated three days back having clear vaginal discharge. There were no known record of accidental injury and history of infectious disease during pregnancy. Initially Valethamate bromide was injected for dilatation of the cervix which was not achieved and vaginal prolapse was also persisted. Finally, cesarean section was performed and six live and five dead piglets were recovered. The sow showed uneventful recovery.

Keywords: Cesarean section, dystocia, sow, vaginal prolapse, management

Introduction

Dystocia in pig is less frequently observed obstetrical disorder among the domesticated farm animals. As a polytocous animal, the first stage (dilation of cervix) and second stage (delivery of fetus) of farrowing process in pig is prolonged and require less farrowing assistance rather than piglet management at farrowing. Therefore, cesarean section has been encountered rarely in sow as compared to other farm animals [2]. Exceptionally, dystocia has been encountered in sow due to vaginal prolapse, fetopelvic disproportion, fetal emphysema, uterine inertia and cervical non-dilatation where cesarean section is the best tool to relieve from dystocia [2, 6, 9]. Rapid forceful and prolonged first stage labour tends to develop preparturient prolapse resulting considerable oedematous swelling and tissue rupture of the reproductive tract where cesarean section is indicated to save both the dam and foetuses. In the present study similar type of case was attended and managed successfully after cesarean section.

Materials and Methods

A crossbred sow weighing 130 kg was reported on 1st March, 2019 in her first farrowing to the Veterinary Clinical Complex, College of Veterinary Sciences and Animal Husbandry, Jalukie, Peren, Nagaland. The owner reported that the gilt was bred naturally on 7th November, 2018 and conceived. He also reported that the gilt was straining since last three days with a big mass of tissue noticed in the birth canal which subsided spontaneously while she stood up. The gilt was anorexic since previous day evening and very weak. On clinical examination the sow was found to be dull and distressed. The rectal temperature, pulse and respiration rate were recorded as 101°F, 128 per minute and 48 per minute, respectively. Haematological parameters were within normal range (RBC 6.63 m/mm³, Lymphocyte 40%, mean corpuscular haemoglobin 20.3pg, haematocrit 35.8%, haemoglobin 13.5 g/dl and Thrombocyte 259 m/mm³). However, decreased concentration was observed in WBC (8.81 m/mm³). Teats were found to be engorged and milk oozed out on stripping. Fetal movement was noticed on left lower flank with intermittent forceful labour, vaginal discharge and the vaginal mass was exposed between the vulvar lips only in recumbent position (Figure 1). On vaginal examination, the cervix was closed with partial sloughing of vaginal mucous membrane and was found dry. Considering the above conditions it was diagnosed as dystocia due to undilated cervix and first degree vaginal prolapse.

Treatment

Initially Valethamate bromide (Epidosin vet, TTK Healthcare Ltd.) injection @ 20 mg intramuscularly was given to hasten cervical dilatation. The animal was re-examined per vaginally after 30 minutes and the external os of the cervix was found partially dilated. It was examined again after half an hour but no further dilatation of the cervix was observed and emergency cesarean section was planned. The gilt was restrained in right lateral recumbency. The left flank region was shaved properly and scrubbed with antiseptic solution (Figure 2). The gilt was premedicated with Triflupromazine hydrochloride (Siquil, Zydus Animal Health) @ 0.8 mg per kg body weight intravenously and anaesthesia was induced throughout the operation with Ketamine Hydrochloride (Ketamax 50, Troikaa Pharmaceuticals Ltd.) @ 10 mg per kg body weight intravenously in incremental doses. Intravenous normal saline was administered throughout the surgery. Lignocaine hydrochloride (2%) was infiltrated @ 4 mg per kg body weight subcutaneously cranially and dorsally to the incision line making inverted "L" block.

A 15 cm long incision was made on the prepared site and gravid horn was exposed (Figure 3). The gravid horn was exteriorized from incision outside peritoneal cavity in order to minimise peritoneal contamination (Figure 4). An incision was made close to uterine body and both ovarian poles were squeezed down and grasped the piglets through the incision. A total of eleven piglets, six live and five dead (stillbirth) piglets were exteriorised from both the uterine horns. The average body weight of the piglets was 1.15 kg with no abnormality. The uterine incision was sutured with double Lambert suture pattern using chromic catgut (Orichrome 1.0, Orion sutures). The operative site was closed by separately suture peritoneum, muscles and skin. Post-operatively, Ceftriaxone injection (Intacef, Intas Pharmaceuticals Ltd.) @ 10 mg per kg body weight, Meloxicam injection (Melonex, Intas Pharmaceuticals Ltd.) @ 0.5 mg per kg body weight, Chlorpheniramine maleate injection (Anistamin, Intas Pharmaceuticals Ltd.) @ 5 ml were administered intramuscularly for six days. Oxytocin (Oxytocin, Karnataka Antibiotics and Pharmaceuticals Ltd.) @ 5 IU was injected intramuscularly to facilitate in involution the uterus. Intravenous infusion of Metronidazole (Metrogyl, J.B. Chemicals & Pharmaceuticals Ltd.) @ 100 ml was also continued for three days. The sow recovered uneventfully and skin suture was removed on 10th post-operative day.

Discussion

Before delivery of the foetus through birth canal cervix must get relaxed. This relaxation of cervix is a multifactorial process which is an outcome of hormonal regulation, inflammatory process and enzymatic breakdown of collagen. Failure of any one of the process affects cervical dilatation. A number of exogenous hormones have been used to induce cervical dilatation in field condition. Valethamate bromide is an antispasmodic, which is found to relieve spasm by its parasympatholytic action and results in cervical dilatation [10]. Researchers observed that Valethamate bromide sufficiently decreases the duration of first stage labor [5, 7]. However, in the present study it has not been achieved after administration of Valethamate bromide.

In the present study, a small mass of vagina was noticed only during recumbent position which was categorised as first degree vaginal prolapse [3]. This might be due to repeated and prolonged pressure on adjacent tissue of the vagina. Supakorn

and co-workers also reported that the cause of prolapse supports a fixation mechanism failure overcome by pressure on or weakening of support tissue [8]. As the cervix was still closed and the vaginal prolapse persisted, cesarean section was performed to save both the dam and foetuses. Six out of eleven piglets were recovered alive successfully. However, five other piglets were found dead in-utero might be due to asphyxia. The gravid horn was exteriorised from incision outside peritoneal cavity in order to minimise peritoneal contamination [1]. Along with antibiotic, analgesic and antihistaminic, a dose of oxytocin was also administered post-operatively as it hastens the uterine involution [4].



Fig 1: The gilt is in recumbent position showing vaginal prolapse and milk ooze out.



Fig 2: The gilt is placed in right lateral recumbency and the ventral flank area is prepared for operation



Fig 3: The skin incision is given and the subcutaneous fascia is separated



Fig 4: The gravid uterine horn is being exteriorized and incision is given



Fig 5: A piglet being removed after excising the uterine horn.



Fig 6: The sow and piglets after being completion of cesarean section.

Conclusion

Dystocia due to prolonged first stage labour *vis-a-vis* closed cervix in pig was found to be less responsive to the Valethamate bromide. Cesarean section was found to be effective tool to relieve sows suffering from dystocia when it was complicated with undilated cervix and vaginal prolapse. The sow recovered uneventfully and skin suture was removed on 10th post-operative day.

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