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Lactation failure in sows – case report

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Summary

Cases of sixteen sows treated for lactation failure in piggery farms in Ibadan are reported. Fifteen of them had no complication of mastitis or mammary gland teat blockage. The fifteen uncomplicated cases responded favourably to the treatment with oxytocin (15-20 I. U. per sow). Only two cases needed second treatment with oxytocin due to poor sustenance of flow from only one treatment. Milk flow was achieved in less than 5 minutes in all the treated sows after the intramuscular injection of the drug. The only sow with accompanying acute mastitis responded favourably to procaine penicillin injection. Early diagnosis and treatment of agalactia are important in the prevention and control of baby pig mortality. The favourable response of these sow lactation failures to treatment with oxytocin, confirms the hormonal imbalance as one of the major factors to be considered in the unknown aetiology of lactation failure or failure of milk ejection reflex.

Keywords: Sows, lactation, agalactia, piglets, oxytocin, mastitis.

Résumé

Seize cochons traits pour déficience d'allaitement dans une ferme de porcherie a Ibadan ont été réportés. Quinze parmi n'avaient pas de complications de blockages des glandes mammaires. Quinze cas non compliqués repondaient favorablement au traitement avec l'oxitocin (15-20 UI/Sow). Deux seulement avaient besoin d'un second traitement avec l'oxitocin du a la faible soutenance des couleures après la 1er traitement. La coulée du lait était achevée en moins de 5 minutes chez les cochons traités après l'injection intramusculaire du médicament. Un seul cochon ayant plus que l'autre mastite repondaient favorablement a l'infection pénicilline. Un diagnostie précoce et traitement de l'agalacie sont important dans la prevention et le controle de la mortalité des porcs. Le résultat favorable de ces échèque d'allaitement aux cochons suite d'une traitement a l'oxitocin confirme l'imbalance hormonale comme un des facteurs majeurs a etre considéré dans une pathologie inconnue d'échéque d'allaitement a l'échéque d'injection du lait.

Introduction

Generally, the aetiology of lactation failures (or failure of milk ejection reflex) can be classified as infectious agents, managerial deficiencies, endocrine imbalances and possibly heredity [1]. Mastitis and agalactia may occur simultaneously or separately. There are variations among sows on the same farm and even among glands of the same sow. Lactation failure in swine is characterized by hypogalactia more frequently than agalactia. Metritis is not usually associated with lactation failure syndrome. Vaginal discharge of varying quantities of purulent material, which is often mistakenly assumed to indicate metritis, is not a contributing factor in most cases of lactation failure [1].

It was reported that *Klebsiella* is commonly associated with the agalactia syndrome [2]. *Escherichia coli* and beta-haemolytic *Streptococcus* are the commonest pathogens isolated from the mammary glands of agalactia sows [3,4,5,6]. Lactation failure due to mastitis can be easily explained. However, lactation failure without mastitis cannot. There is apparently an interplay among many predisposing factors, endotoxin absorption and altered endocrine functions [1]. Because of these complex aetiologies involved in lactation failure of sows, I hereby report my experience in Nigeria of response to treatment by clinically affected sows.

Materials and method

Sixteen sows (Large white and Landrace breeds) from five piggeries, where farmers complained of lactation failure were clinically attended to. The sows were in their first to third lactation. Rectal temperatures of sows were taken and recorded. Handmilking was done to ascertain the failure of milk ejection reflex. Sterile injectable gauge 22 needles were used to open mammary gland teat canals to rule out blockages. Mammary glands were palpated to detect mastitis and mammary oedema. Oxytocin (15-20 I. U. per sow as directed by the manufacturers) were injected intramuscularly to affected sows. A second injection on the second day was given in only two cases that milk flow achieved earlier was not maintained despite piglets suckling. One of the sows had a complication of acute mastitis and was treated with procaine penicillin by intramuscular injection for the five days. Mastitis was diagnosed by looking at the colour and consistency of the milk. Weak, cyanosed squelling piglets suckling without success and empty stomach at postmortem are considered in the diagnosis of the lactation failure of sows. The flow of milk like burst pipe through mammary gland teats immediately after oxytocin treatment confirms the efficacy of the hormone therapy. Wrist watch was used to determine the time of response to treatment.

Result

Milk flow was achieved in all the sows within 5 minutes of injection of oxytocin. The sow with acute mastitis responded favourably to penicillin intramuscular injection. A repeat of injection with oxytocin was necessary in only two cases where continuous milk flow ceased after initial let down. Milk collected were coloured like cream yellow butter in normal cases but bloody to brown in mastitis cases. Rectal temperatures of the sows with lactation failure ranged from 38.5-39°C. The mastitis sow had rectal temperature of 40°C.

Discussion

Numerous aetiologies or pathophysiologicals can be involved in postpartum dysgalactia syndrome and mastitis in sow. The debate on aetiology of lactation failure or failure of milk ejection reflex is continuing [6,7]. The success of using oxytocin in solving the problem shows that aetiology of lactation failure is connected with hormonal imbalance. This agrees with the finding of earlier reports [6,8,9,10]. Oxytocin is released from the posterior pituitary by a neural-humoral reflex arc that is gener-

ally triggered by the sucking stimulus. The action of oxytocin is to cause contraction of the myoepithelial cells at the base of the secretory alveolus causing emptying of the alveolar contents and subsequent milk let-down. Failure to release milk from the alveolus results in its engorgement with the result that lactose may return to the blood and lymph through clefts between the cells [11]. The secretion of colostrum is determined by a complex hormonal balance. An osmotic attraction by lactose draws the milk fluid back from the alveolus and results in a reduction in milk flow. Milk engorgement has a direct effect on the mammary epithelium, which represents a useful feedback system that adjusts milk production response to demand. Factors such as inflammation, swelling or edema that disturb the basement membrane of the alveolar cells or the tight junctions between the alveolar cells may contribute to a loss of the proper osmotic gradient necessary for milk secretion to occur. The use of oxytocin also helps to control uterine bleeding and aids uterine involution. It is also useful in the expulsion of last fetuses during uterine inertia. The repeated injection of oxytocin in two sows is in order since some workers recommended oxytocin 5-10 i.u./sow if used 4-5 times at 2 to 3hrs intervals [7]. Farmers are therefore advised to be on the look out for early diagnosis of lactation failure. Attendance at farrowing and encouragement of batch farrowing with the use of prostaglandin $F_2\alpha$ will go a long way in reducing baby pig mortality due to neonatal hypoglycaemia and crushing. This work also confirms the efficacy or potency of oxytocin marketed in Nigeria [1]. recommended rigorous culling of sow lines affected but this should be done with caution: This condition is treatable and simple. Thus many good sows can be retained.

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