IMPERFORATE HYMEN AND SUBSEQUENT MUCOVAGINA IN A FILLY

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Received: 25.05.2018 Accepted: 10.06.2018

ABSTRACT

An eighteen-month-old filly was presented with imperforate hymen and subsequent development of mucovagina. The hymen was incised and accumulated secretion was drained. The linear incision of hymenal membrane was bluntly extended through digital manipulation till smooth passage of hand in vaginal canal without any resistance and cervix was palpated. Animal recovered uneventfully, bred after seven months and diagnosed positive for pregnancy at three months of gestation.

Key words: Imperforate hymen, Mucovagina, Filly, Vaginoscopy

INTRODUCTION

In mare, congenital vaginal obstruction is most frequently associated to an imperforate hymen, an incomplete persistent hymen or a vaginal hypoplasia (Hughes, 1992; Freeman and England, 1997; Raggio *et al*., 2005). Generally, a variable degree of persistency of hymen is observed in maiden mare but in rare cases, an imperforate hymen is noted leading to accumulation of fluid within the vagina and uterus. Mostly, hymen is swept by fingers and hand before breeding a maiden mare but sometimes the hymen is so tough that it can only be ruptured using a guarded scalpel blade or scissors. The present case in a filly explains imperforate hymen with subsequent development of mucovagina and its surgical management.

CASE HISTORY AND OBSERVATIONS

A filly (age, 18 month) of upgraded Kathiawari breed had the history of straining while urination and defecation along with the frequent protrusion of a large part like a fluid filled balloon coming out of vulva (Fig. 1) when she lay down and also during canter. Filly was attended by local veterinary practitioner and suspected for vaginal prolapse and given treatment accordingly. But there was no relief over a week-long treatment thereafter case was referred to university hospital. Per rectal examination revealed a fluid filled fluctuating swelling in the vagina behind cervix, however, the uterine horns were normal on palpation. Transrectal ultrasonography revealed granular free-floating fluid distending the posterior vagina, however, a tough membrane was obstructing the hand to palpate cervix per vaginally. The vaginoscopic examination confirmed an imperforate membrane with similar appearance to the adjacent tissue but slightly less reddish and obstructing the visualisation of cervix (Fig. 2). The filly was diagnosed with imperforate hymen and subsequent development of mucovagina due to obstruction to natural drainage.

TREATMENT AND DISCUSSION

The filly was restrained properly in standing position under trevis and was administered epidural anaesthesia (2% lignocaine HCl; 8 ml in first coccygeal interspace). The tough hymenal membrane was taken out with the help of soft tissue holding forceps and an incision was made dorsal to ventral direction (Fig. 3) and around 2 L mucoid fluid without any off smell was drained off. (Fig. 4). The endoscopic examination revealed normal vagina and a tightly closed cervix (Fig. 5). The lubricated gloved hand was passed gently through vagina to tear hymenal membrane

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Fig. 1: Protrusion of Imperforate hymen

Fig. 2: Vaginoscopic appearance of persistent hymen

Fig. 3: Incision of hymen

Fig. 4: Flow of mucous after incision

to its maximum and to ensure smooth passage of hand. The vagina was flushed with normal saline 2-3 times and Xylocain jelly (4% lignocaine HCl) and Neosporin powder was smeared throughout vagina. The postoperative treatment of dam comprised mainly of injecting combination of antibiotic for five days. During the subsequent period, the filly had no vaginal discharge or associated systemic abnormalities. The tenesmus ceased and normal posture to urination and defecation was noted with no further protrusion of membrane from vulva. The filly was successfully breed after 7 months and three months after breeding, a positive pregnancy diagnosis was made by per rectal examination.

The hymen is formed from epithelial lining of paramesonephric ducts and urogenital sinus at the vestibulovaginal junction. The canalization of hymen is usually complete at birth and leads to communication between the lumen of caudal vagina and vestibule (Roberts, 1986). The most frequent developmental anomaly concerning the caudal reproductive tract in the mare is imperforate hymen or persistence of variable degree of hymen (Mc Entee, 1990; Hughes, 1992). In mare, few reports exist on developmental anomalies of cervix and cranial vagina besides those associated with pseudohermaphroditism and testicular feminization syndrome (Kieffer, 1976; Crabbe *et al*., 1992).

Hydrometra is a common sequale of vaginal obstruction in cyclic females as the normal outflow of the uterine secretions is prevented leading to accumulation of fluid with an increase in age and cyclic ovarian activity of the female (Troiano and McCarthy, 2004). Iin present case, filly was not reported for any cyclic symptoms though there was accumulation of vaginal secretion and epithelial debris. In this case, the cervix was closed as visualised by vaginoscope, thus, no chance of entry of vaginal secretion into uterus. The latter was confirmed by ultrasonography as uterine horns had no accumulation of secretions.

In cattle, the most common developmental aberration, due to a sex-linked recessive gene, of female reproductive tract is variable degree of hymen persistence with white shorthorn breed being most affected (Parkinson, 2001). The accumulation of secretions associated with complete hymen obstruction can be relieved by trocar and cannula. In present case, the obstruction was relieved by incision of hymenal membrane with scalpel and blade, thus leading to drainage of mucoid fluid. Nevertheless, the surgical intervention to enable successful breeding is not advisable due to hereditary origin (Parkinson, 2001). In horses and other ruminant species, persistent hymen is reported, but heritability is unknown.

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