

## Imperforate Hymen and Pyometra in a Cross Bred Heifer: A case report

S.V. Madhusudhan<sup>1</sup>, K. Promod<sup>2</sup>, Leeba Chacko<sup>2</sup> and Sooryadas<sup>3</sup>

<sup>1</sup>PG Scholar, <sup>2</sup>Assistant Professor and <sup>3</sup>Assistant Professor, Dept of VSR

Department of Animal Reproduction Gynaecology and Obstetrics

College of Veterinary and Animal Sciences,

Kerala Veterinary and Animal Sciences University, Pookode, Wayanad - 673576

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### Abstract

A three year old cross bred heifer was presented to the TVCC, Pookode with the history of prolonged straining during urination and defecation after subjected to natural service three months back. Clinico-gynaecological examination, transrectal ultrasonography, vaginoscopic examination the case was diagnosed as imperforate hymen. The hymen membrane was punctured with a trocar and animal was casted on the floor and about 20 litres of foul smelling pus like fluid gushed out through the vagina and postoperative care for 5 days. After 45 days, slight narrowing of vaginal lumen was detected. Animal showed regular oestrus cycles but not conceived even after several A.I and follow-up treatments for one year and hence the animal was culled.

### Introduction

True persistence of the hymen or imperforation of the hymen is the most commonly reported paramesonephric duct anomaly in domestic animals. Fluid accumulates in the vagina and uterus, resulting in protrusion of the hymen at the vulva when the animal is lying down or straining. Hymenal defects are most common in white Shorthorn cattle (white heifer disease). Hymen is formed between the anterior two third or more of the vagina. It arises from the paramesonephric

ducts and the posterior one third or less of the vagina, which is an evagination from the walls of the urogenital sinus. A similar condition was observed by Rajkonwar (1975) in a cross bred heifer and Gupta and Sharma (1973) in a buffalo heifer. The treatment of this anomaly has been documented by Phogat *et al.* (1993). The present case report deals with treatment of imperforated hymen in a crossbred heifer.

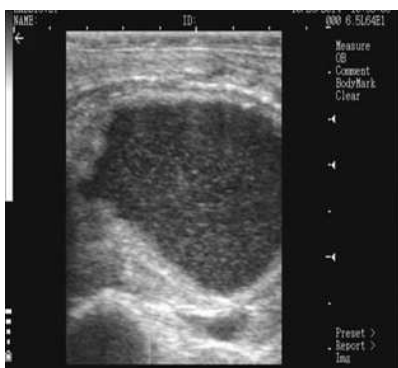
### Case history and observations

A three year old cross bred heifer was presented to the TVCC, Pookode with the history of prolonged straining during urination and defecation. Detailed anamnesis revealed that the heifer was subjected to natural service three months back, which proved unsuccessful due to some difficulty for copulation and later the animal developed tenesmus. Clinico-gynaecological examination revealed a voluminous fluid filled fluctuating mass in the abdominal cavity descending from vagina and a tough tissue membrane at posterior vagina obstructing the hand while attempting the palpation of cervix (Figure 1). On transrectal ultrasonography, an anechoic fluid filled sac like structure with swirling movement of hyper-echoic particles was observed in abdominal cavity

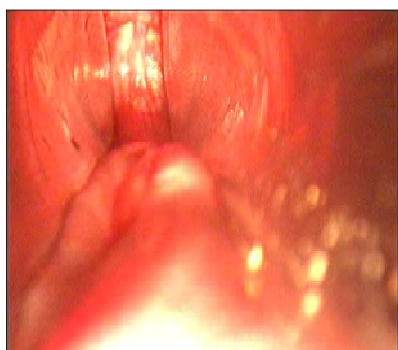
(Figure 2). Vaginal examination using both speculum and vaginoscope revealed the presence of a tissue at the posterior vagina obliterating the lumen (Figure 3). Mucopurulent exudate was collected with an A.I sheath which was inserted into the lumen through a small hole in the tissue. The case was diagnosed as imperforate hymen.



**Fig. 1: Gross examination**



**Fig. 2: Ultrasound view of vaginal sac**



**Fig. 3: Band on vaginoscopic examination**



**Fig. 4: Gushing of exudates**

### **Treatment and discussion**

The animal was subjected to caudal epidural anaesthesia with 2% lignocaine hydrochloride and the hymen membrane was punctured aseptically with a trocar guarded by fingers. The hole was dilated to its maximum by digital pressure. The animal was casted on the floor and about 20 litres of foul smelling pus like fluid gushed out through the vagina (Figure 4). Vagina was flushed with normal saline mixed with potassium permanganate (1:1000) solution. Post-operative treatment with Antibiotic such as Streptopenicillin (2.5 gm, Dicrysticin; Zydus AHL) 10000 IU/kg and antiinflammatory drug such as Meloxicam (30 ml, Melonex; Intas Pharmaceuticals) 0.2 mg/kg were also given intramuscularly that were repeated after every six hour for five days to avoid any septic complication and intrauterine medication with Metricef (500mg Cephapirin benzathine; Intervet AHL) was continued for five days. After 45 days, cervix and both uterine horn were palpated per-rectally and slight narrowing of vaginal lumen was detected on per-vaginal examination. Animal showed regular oestrus cycles but not conceived even after

several A.I and follow-up treatments for one year and hence the animal were culled.

The case, imperforate hymen with secondary pyometra and pyocervix was diagnosed on the basis of history clinical observation and per-vaginal palpation. The case was earlier misdiagnosed as urinary obstruction and insertion of AI sheath into bulge portion of vagina leading to breach in aseptic environment that might lead to subsequent infection with pus forming bacteria leading to accumulation of pus. In present case the wall of vagina and uterus become very thin and difficult to locate the horns but per-vaginal examination revealed that the inner surface of vagina and uterus was very rough and corrugated. This occurs because the normal outflow of the uterine secretions is prevented by complete persistency of imperforate hymen leading to accumulation of fluid that increases with the age and the cyclic ovarian activity of the female (Troiano and McCarthy, 2004). The duration and volume of fluid accumulation could have affected the endometrium via pressure atrophy leading to embryonic loss if fertilization occurred or some permanent blocked might have occurred that preventing fertilization. And this may be the reason for the reproductive failure in the present case. Asystematic research on prognostic reproductive life of an affected animal and its heritability which would

help the clinicians as well as owners to take appropriate decision in time.

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