Using a combination administration of progesterone device and PGF2α to treat pseudopregnancy in Thai dairy goats

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Introduction

Pseudopregnancy or Hydrometra in goats is a pathological condition of the uterus which is accumulated of aseptic fluid within the uterus and a persistent corpus luteum (3). It is one of a major cause of subfertility in dairy goats but the etiology has still not been clear. In mated does, the presence of fluid without viable conceptus in uterine lumen can be detected by real time B-mode ultrasonography. The pseudopregnancy also occur when a doe’s reproductive hormone system get “short circuited” or failure of luteal regression. In older goats, parous does was significantly higher than in yearlings (1). Hydrometra caused economic losses in dairy goats, no kid and decrease milk production (2).

Materials & Methods

Animals

This present study was carried out in one farm of 150 dairy goats in Nongchok district, Bangkok. This study focuses on reproductive performance after treatment with exogenous hormonal administration in 13 cases of pseudopregnancy dairy goats. These does with the history of anoestrus for 2 to 3 months during breeding season and bilateral abdominal distension were diagnosed as pseudopregnancy using transcutaneous ultrasonography scanning (Fig. 1). The incidence of pseudopregnancy was 8.7 per cent (13 of 150 does).

Treatment

All does were inserted an intravaginal device impregnated with Eazi-Breed™ CIDR® during the breeding season and leave in place for 14 days. All does received double dose of 100 µg Estrumate® (cloprostenol sodium: PGF2α) on day15 and 12 hours (h) later. The CIDR were removed in the morning of day 15 after PGF2α injection. Follow up ultrasonographic diagnosis on day 4 and 35 after treatment was performed (Fig. 2A, 2B). All does were observed for oestrus behavior 2 months after treatment.

Laparoscopic artificial insemination (LAI)

A total of 5 does randomly selected from 13 were used for insemination. At least one estrus cycle was recorded before mating allowance. All 5 does were inserted an intravaginal device impregnated with Eazi-Breed™ CIDR® and leave in place for 13 days. Does were inseminated by laparoscopic artificial insemination (LAI) and semen was deposited in the uterine horn within 22-24h later.

Pregnancy detection

The conception rates were determined by transcutaneous real-time ultrasonography at 45 days after breeding.

Figure 1 Representative picture of transcutaneous real-time ultrasonography. The picture revealed enlarged anechoic fluid within uterus (arrows) and present transverse hyper echogenic lines of thinly stretched uterine walls. UT= uterus.

Figure 2 Representative picture of the follow up ultrasonography of the uterus of the does at day 4 and 35 post-treatment. UB = urinary bladder.
Results & Discussion
As the result of exogenous hormonal treatment, all 13 does exhibited the relaxation of the cervix and stimulation of uterine contractility, followed by expulsion of the uterine discharge at 24-48 hours after treatment and then the animal were returned to estrus. All cases showed at least 1 oestrus during 2 months post-treatment without recurrence of hydrometra confirmed by no evidence of fluid accumulation in the uterine lumen using ultrasonography (Fig. 2). Regarding the results of LAI in 5 selected does, 2 of 5 does (40%) were positively pregnant (Fig. 3).

Figure 3 The pregnancy rate was performed by ultrasound real-time B-mode scanning at 45 days after service.

In conclusion, hydrometra in dairy goat is always associated with high levels of progesterone secreted by persistent corpus luteum (4). The fertility of does appears to be normal after reprogramming the reproductive endocrine system using a combination administration of progesterone device and PGF2α. The treated does may return into estrus and can be bred within one or two months.

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