

A NOVEL VAGINAL TABLET FOR THE EUSTROUS SYNCHRONIZATION IN SHEEPS

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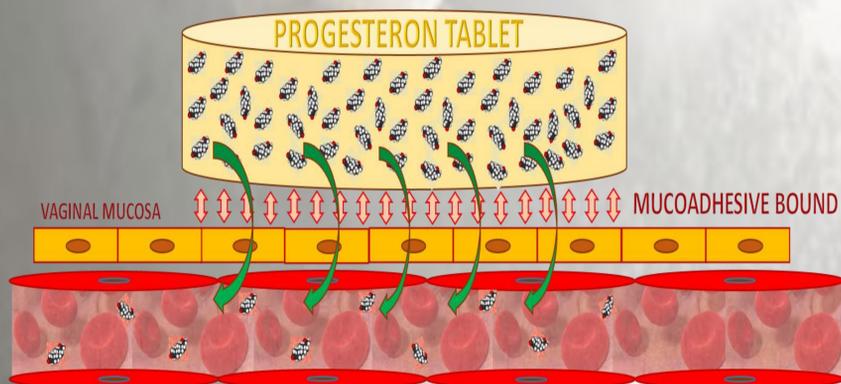
CONTENT

This study comprises the synthesis and the characterization of the biodegradable/biocompatible mucoadhesive starch based poly(acrylic acid)graft [(WS-g-PAA)_{gc}] and thiolated graft copolymer [(WS-g-PAA)_{gc}-TGA] drug carrier systems, their cytotoxicity tests and the development of the progesterone containing vaginal tablets.

Keywords: Sheep, estrous synchronization, progesterone, vaginal tablet, starch based poly(acrylic acid)graft copolymer, starch based poly(acrylic acid) thiolated graft copolymer

INTRODUCTION

Intravaginal devices which is available in the market for the purpose of the estrous synchronization in sheep, have some disadvantages in the applications such as complications related to irritation, dropping, application difficulties in the case of hymen ring and track are narrow. The requirement of the devices removal procedures in the application causes of the increasing of the workload and the medicine cost.



METHOD

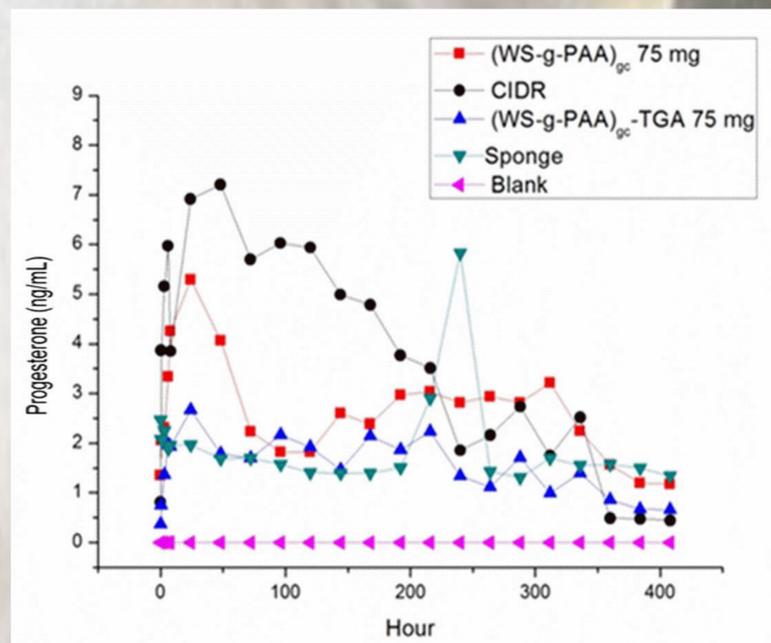
Different amounts of progesterone containing tablets (50 mg, 75 mg and 300 mg) which were prepared using synthesized polymers were examined in the ovariectomized and anestrous sheep. Progesterone hormone profiles in the blood were compared with CIDR and vaginal sponge. Progesterone in the blood serums were measured using Ria Gamma Counter equipment following the application at 30 minutes, 3rd, 6th, 8th and 24th hours and then in every 24 hours for 17 days.

RESULTS AND DISCUSSION

It was observed that the hormone release of the 50 mg progesterone containing tablets was in a high level in the first day (burst effect), but it declined from the second day and it decreased to the low level by declining under the effective level (1 ng/mL). It was determined that the hormone release of 300 mg progesterone containing tablets is extremely over the desired value for the very long periods of time. The hormone release of the 75 mg progesterone containing tablets is extremely over the desired value (4.4 ng/ml) from the 1st day. It was seen that the hormone release continues from the 3rd day in a controlled way without declining above the value of 1 ng/mL for the following 14 days. These tablets have a similar behavior with the commercial product CIDR.

CONCLUSION

As a result, it was detected that 75 mg progesterone containing vaginal tablets, which were developed using starch based modified copolymers, can be used for the purpose of the estrous synchronization for the progesterone releasing at the vaginal application.



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