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INTRODUCTION

The measurement of pregnancy-associated glycoproteins (Pag's) concentrations in peripheral maternal circulation has been used for both pregnancy confirmation and the follow-up of the trophoblastic function. The first aspect can help veterinarians and breeders in the management of reproduction, the second one represents a powerful tool for researches involved in studying factors affecting embryo or fetal mortality and embryo biotechnology.



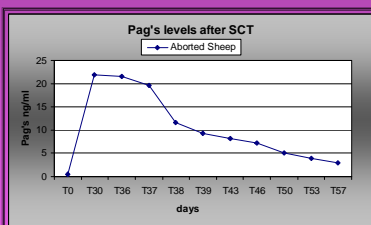
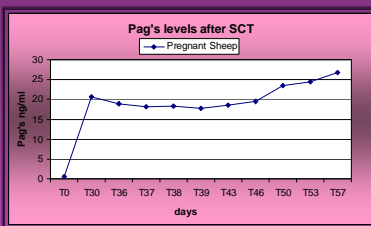
Fig.1 Coelomic cavity (gestational age=36d)

MATERIAL AND METHODS



Fig.2 Comiso sheep (*Ovis aries Comisana*)

This study aims to assay Pag's concentrations before and after *in utero* stem cells transplantation (SCT) via the intracoelomic route (Fig.1) in the sheep. The transplantations were performed on 10 Comiso sheep (Fig.2) fetuses at 36 days of development (Fig.1) and plasma samples were collected at the day of conception (T0), 30 days after conception (T30), at the moment of stem cells transplantation (T36) and at 37(T37), 39(T39), 43(T43), 46(T46), 50(T50) and 57(T57) days. The Pag's measurements were performed according to the method described by Zoli et al. (1992) by mean of heterologous RIA.



RESULTS

The average of Pag's concentrations of the 10 sheep at T30 and T36, were 21.1 and 20.0 ng/ml, respectively, indicating that they were pregnant. Of the 10 treated sheep, 4 aborted after the stem cells transplantation and at T38 and T39 the Pag's concentrations were lower in aborted sheep than in pregnant ones, without significant differences. The average Pag's concentrations (ng/ml) were 18.6±8.3 vs 8.1±1.2 at T43 (P<0,03), 19.4±9.6 vs 7.2±1.1 at T46 (P<0,03), 23.6±5.9 vs 5.1±0.7 at T50 (P<0.001), 24.5±5.5 vs 4.0±0.5 at T53 (P<0.0001), 26.7±4.1 vs 2.9±0.4 at T57 (P<0.0001), in pregnant and in aborted sheep, respectively.

CONCLUSION

Determination of the Pag's concentrations by mean of heterologous RIA is a useful tool for the detection of early embryonic mortality after *in utero* stem cells transplantation and it could be a more reliable test than the transvaginal ultrasound.

References: Zoli AP, Guibault LA, Delahaut P, Ortiz WB, Beckers JF. Radioimmunoassay of a bovine pregnancy-associated glycoprotein in serum: its application for pregnancy diagnosis. Biol Reprod 1992; 46:83-92.