

Morphometric evaluation of the embryo-uterine relationship of the pre and post implantational stages in rabbit (*Oryctolagus cuniculus*) [Evaluación morfométrica de la relación embrio-uterina de las etapas pre y post implantacional en conejo (*Oryctolagus cuniculus*)]

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The rabbit has demonstrated to be an outstanding implanting model. As an obligated ovulating animal, its pregnancy time can be established exactly. The morphologic observation of uterus cuts of 7, 8, 9 and 10 days post mating, allowed this research to rebuild an apparent sequence morphometric events, that take place during rabbit implantation. Twenty New Zealand, white, adult, female rabbits were used in this research. (*Oryctolagus cuniculus*), nulipara. And 4, proven, fertile, males were used for mating. These males were obtained from the Bioterio of the Faculty of Medicine at the Universidad de La Frontera, Temuco, Chile. Mating day was defined as day zero, sacrificing the females days 7, 8, 9 and 10 in each mating. Once sacrificed, the pelvic region was macro and mesoscopically dissected, and the vesicles were selected for histological and immunocytochemical study. Histological studies were performed with H.E. technique; morphometric and cellular kinetics with Tunnel and PCNA techniques. Descriptive statistics was used based on an average and standard deviation ($p < 0.001$). The Stata 9.0 statistical program was used. The morphometric measurements obtained were: diameters and volume of the uterine vesicle, height of the uterine wall and glandular lumen of the mesometrial and antimesometrial regions to 7-10 days post coitus. The immunocytochemical analysis identified: apoptotic index of the cellular nucleus and cellular mitotic index. By day 8 post coitus were observed significant morphometric changes at the vesicular lumen, height of the uterine wall of the mesometrial region and glandular lumen. For the same day important changes of the cellular mitotic index and apoptotic index were observed. The rabbit could be a species used to predict normal embryo development, after the morphologic comprehension of

the implantation, given its not so invasive form of implantation and its capacity of early placenta formation. Providing updated information in the normal development of the rabbit embryo and in vivo implantation, is an interesting move ahead for in vitro embryo cultivation.

Embryo-uterine relationship

Implantation

Morphometry

Rabbit