

Embryological development of the hair follicle in the *Mesocricetus auratus*

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The present work was performed to follow the embryological development of the hair follicle in the hamster embryos and fetuses that were taken from the 9th to 14th day after conception. It is known that epidermis and hairs are all derived embryologically from a common precursor, the ectoderm. During the embryogenesis the epidermis growth hair is surrounded by two sheaths, an outer root sheath contiguous with the epidermis, and an inner root sheath, whose cells are derived from the same precursors as the hair shaft. The determination and differentiation of each hair is controlled by specialized mesenchymal cells, referred to as the dermal papilla that transmit their signals to the epithelial precursors of the hair, or matrix cells, which are relatively undifferentiated epithelial cells surrounding the dermal papilla. Timed pregnant Syrian hamster has a gestational period of 16-18 days, but we used animals with 09-15 days. The presence of a vaginal plug was defined as day 0 of gestation; ethyl ether vapor was used as an anesthetic agent, during the uterus extraction; two pregnant animals were used at each gestational stage. Ventral and back skin fragments were processed to study under a light microscope. The embryos and fetuses were fixed in 10% neutrally buffered formalin or Bouin's fluid; the pieces were washed, dehydrated, clarified, and embedded in paraffin. Serial sections were made by 5 thickness; deparaffinized, hydrated, stained with hematoxylin-eosin (HE), Gomori's trichrome (TG), Gomori's reticulin, para-aldehyde fuchsin modified (PAF), Alcian Blue solution at pH 1.0 or 2.5 and PAS reaction; dehydrated, cleared and sealed with cover glasses. The follicle placode is an imperceptible area of the cellular proliferation into the epidermis that bulges in direction to the mesenchymal cells of dermal condensations - Stage 0; when clearly visible, surrounded by a basement membrane - Stage 1; the continues growth down is pulled by the mesenchymal stem cells that will form the dermal papilla - Stage 2; when the extremity of the follicle is rounded and the papilla is inside it and the fibrous membrane is present - Stage 3. Different from the literature we found melanocyte cells at the Stage 4; the club cells, melanin granules and accentuated curvature in the follicle is observed at Stage 5. It was interesting observed the close association between capillaries and follicle is during the follicle development. The results were compared with previous studies and observed that the hamster's hair follicle development it is similar to those of others mammals.