

Stage 8 Differentiation of Egg Cylinder

6 Days

Implantation sites are easily visible externally as spherical swellings, measuring 2×3 mm (Fig. 46). The spacing of the embryos is now rather regular [26]. However, in one instance, two embryos in one swelling were observed (specimen KT 914).

Embryoblast

The egg cylinder elongates and will soon be divided into *embryonic* and *extraembryonic* areas. In between the two areas there is a small indentation. Soon a central lumen, the *proamniotic cavity* appears, at first in the embryonic region, and later in the extraembryonic area. Most embryos of this stage have already formed a continuous cleft.

Most of the cells of the embryonic ectoderm are cylindrical in shape. They are often separated by a small furrow from the extraembryonic, irregular cuboidal cells.

The entodermal cells become flattened at the ventral end of the egg cylinder. Toward its base, they become cylindrical and accumulate much glycogen in their apical cytoplasm [29] (Fig. 51, *lower left*).

Trophoblast

Trophoblastic cells migrate irregularly from the *ectoplacental cone*, and maternal erythrocytes spill into the developing intercellular lacunae. Ectoplacental cells store much PAS-positive material, probably glycogen (Fig. 51). They are called by Arvis [23] "cellules ultratrophoblastiques." Their shape is more regular than the glycogen cells of the decidua.

The peripheral, previously flattened trophoblastic cells invade the maternal tissue and enlarge greatly. They are often called *primary giant cells* and contain a single, very large nucleus (Fig. 54). The peripheral cells of the ectoplacental cone also begin to enlarge.

Trophoblastic giant cells never undergo mitosis [30]. Their distinction from smaller, so-called "secondary giant cells" [2] (Fig. 107) is perhaps unwarranted as they are also derived from the trophoblast.

Reichert's Membrane

With the appearance of distal (parietal) entoderm, a noncellular thin membrane, Reichert's membrane, forms between the distal entoderm and the peripheral trophoblast (trophecto-derm). Though acellular in nature, it increases in size with the growth of the embryo, and can be distinctly recognized during later development. It is secreted by the distal entoderm (see discussion in Green [2]).

Material	Age	Embryos	Lumen (proamnion)	Closure of mesometrial uterine lumen
KT 913/14	5 days 23 h	(Left) 2	+	Halfway, hemorrhage
		(Right) 3	+	Halfway, hemorrhage
KT 926/27	5 days 23 h	(Left) 3	None	No
		(Right) 1	None	No
KT 928/29	5 days 23 h	(Left) 1	+	Halfway, hemorrhage
		(Right) 3	+	Halfway, hemorrhage
KT 723	6 days 3 h	Total 6	+	Halfway, hemorrhage
KT 919	6 days 3 h	(Left) 4	+	More than half, hemorrhage
		(Right) 4	+	More than half, hemorrhage
		Two of them in resorption		

Figs. 46–51: Differentiation of egg cylinder: 5 days 23 h

FIG. 46. Drawing of uterus at 5 days 23 h.
KT 928/29

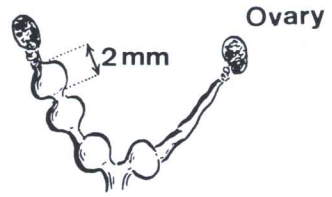
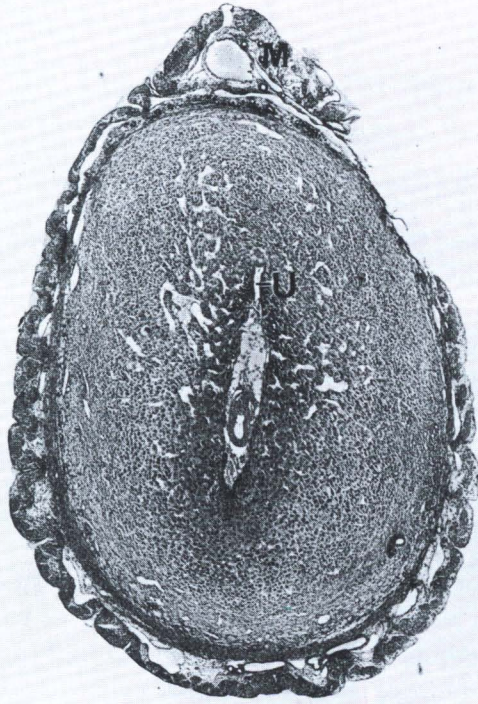
FIG. 47. Low magnification of uterus, cross section.
M = mesometrium, *U* = disappearing uterine lumen.
KT 914. 34:1

FIG. 48. Implantation site. The ectoplacental cone appears diffuse in its peripheral region.
Z = decaying uterine epithelium, in the original lumen. 100:1

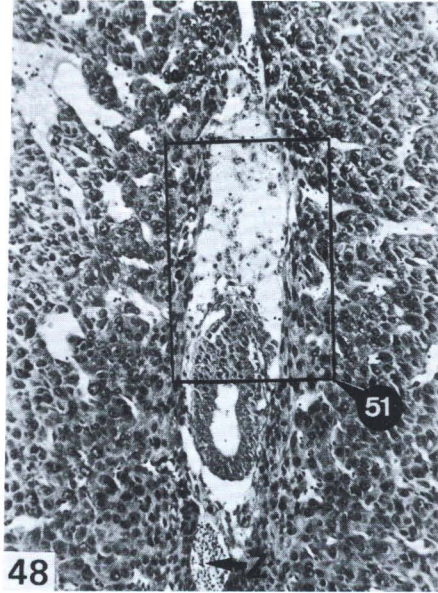
FIG. 49. Egg cylinder, retarded in development by about 24 h.
KT 926, 5 days 23 h. 270:1

FIG. 50. Differentiation of egg cylinder.
KT 929, 5 days 23 h. 100:1

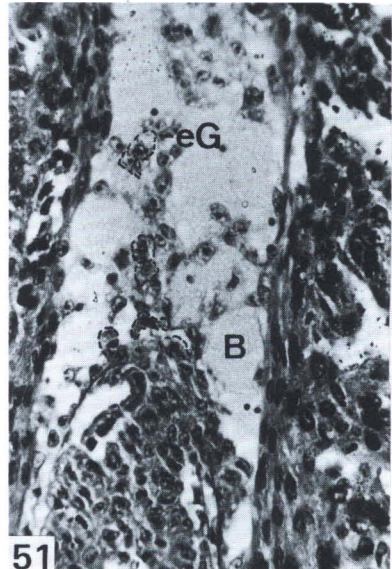
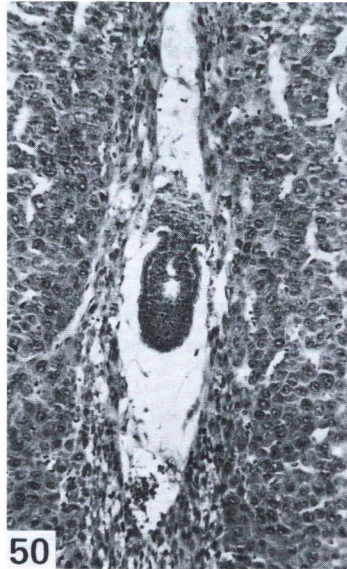
FIG. 51. Detail of Fig. 48.
Some scattered cells of the ectoplacental cone have differentiated into ectoplacental glycogen cells (*eG* = dashed boundaries). Maternal blood (*B*), only faintly stained, fills the interspace. 270:1



46



48



51