

general condition—the activity of the heart, the respiration, and the appetite. They are not indicated in cases where there is obstinate vomiting, nor where collapse is imminent, nor where thrombosis is associated with sepsis. The value of this method of treatment can be better appreciated if it is considered that sepsis means a struggle for the mastery between the cells of the tissues of the body and the microbes which have invaded them. The plan of treatment which the author has indicated has for its object the fortifying of the body to enable it to pass through this struggle successfully.

#### Histology and Pathology of Re-production.

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The following are notes from a paper on the above subject, by Henry O. Marcy, A.M., M.D., Boston, read at the Washington International Medical Congress. At the outset he eulogized Ercolani of Bologna, for this, his most famous work on the placental development in vertebrates. The study of this subject goes back to the times of Malpighi in the fifteenth century. Ercolani starting with the differentiation of the mucous membrane and its glandular structure, examined the structure in all the species possible to be obtained.

The placenta is ordinarily sub-divided into *fused*, *multiple* and *single*. The simplest form is found in the mare. Over the whole surface of the uterus in this animal there is developed a series of secreting glands of follicular character, and into these it is easy to trace the villi of the foetal portion of the placenta. A foetal villus is little more than a vascular loop covered with epithelium. The glandular follicle is equally simple in anatomical construction, and also lined with epithelium, the one a villus of secretion, the other of absorption.

The multiple placenta of the cow offers the simplest form of this kind, common to ruminants. The glandular maternal organ is modified here, which consists simply in the uterine follicles being placed parallel with the surface and superimposed upon each other instead of being disseminated vertically over the whole internal uterine surface as in the diffused. In the dog and cat the follicles are extraordinarily elongated into tubular glands, as it were, which are closely packed against the foetal villi.

In the human species all that relates to the form itself of a glandular follicle is completely lost, but

the fundamental parts of a secreting organ, that is to say the walls and cells, in a word the gland and its secretions, are persistent. The function of nutrition of the foetus is in all the morphological variations carried on by the same process.

In woman the mucous membrane is reduced to a simple layer of epithelial cells, and with impregnation there is a proliferation and destruction of these cells over the entire surface of the uterus. This destruction is necessary because this is what facilitates the setting up of the neo-formative changes from which will result the maternal portion of the placenta. Thus the formation of the decidua and the placenta is due neither to a tumefaction nor to a transformation of previously existing anatomical elements.

The neo-formative process of the maternal portion of the placenta, *decidua serotina*, consists in the production of new vessels which are distinguished from the ordinary uterine vessels; first, the arterial as well as the venous vessels have only a simple endothelial wall; second, on the external surface of their walls is elaborated a layer, more or less thick, of special cells not separable from the wall of the vessel. These are the so-called decidual or placental cells.

What the origin is of the cells entering into the formation of the maternal portion of the placenta has long been a matter of doubt; Turner, Owen and Kolliker touch the question, but imperfectly.

The simple elementary form of the maternal portion of the placenta is recognized, and is maintained throughout the whole period of gestation in the uterus of certain viviparous fishes.

The manner in which the relation between the two parts is established may be by simple proximity, contact, or by intimate cohesion. When the relation is that of simple nearness the maternal portion of the placenta manifestly presents the form of a glandular organ and has its limitation by the repetition of secretory villi upon the inner surface of the uterus, which, uniting with each other in various ways give rise to the formation of crypts or glandular follicles, single or compound, into which enter the absorbent villi of the chorion. When the relation is more intimate and an adherence takes place between the two parts before mentioned, as in the single placenta, the glandular character is concealed by the fact of the adhesion, but the fundamental character remains constant.