



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

UNDERSTANDING PLACENTAL PATHOLOGY

a practical approach

Homage to Professor Harold Fox

Granada, 29th and 30th April, 2010

The secundina

"Icones Anatomicae" and ancient books
From the Library of Medicine
University of Padova
Marina Cimino, Alberta Coi
and Silvia Chiarelli



Profecio fuit quando non eras postea de villi materia factus, et vilissimo panno involutus, menstruali sanguine in utero materno fusti nutritus, et tunica tua fuit pellis secundina.

Meditationes piissimae de cognitione humanae conditionis.

S. Bernardi Claraevallensis

Rueff, Jacob 1587

Introduction

Secundina, from Latin secundina-ae (paries secundae), is the popular term used in some romance speaking countries (Italy and Spain) to define the placenta and foetal adnexa. The term placenta was first used in 1559 by Italian anatomist and surgeon **Realdus Columbus** who succeeded **Andreas Vesalius** as professor of surgery at the University of Padova, in his work "De Re Anatomica". Also in Italian the words: *secondamento* and *secondare* are used to indicate the expulsion of the placenta, as a second, mysterious birth that completes the first and keeps its own life.



Estienne, Charles 1545



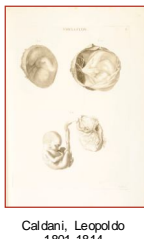
Acquapendente, Fabrizio 1601



De Graaf, Reinier 1672



Mellini, Sebastiano 1721



Caldani, Leopoldo 1801-1814



Velpeau, Alfred A. L. M. 1834

History

The knowledge of the afterbirth goes far back into antiquity and consequently, many references are found in many ancient texts and drawings and in the Old Testament. Early Egyptians considered the placenta as the seat of the external soul. Hippocrates states that the embryo is nourished by maternal blood and Aristotle supported this theory, which remained the accepted doctrine in Europe into the Middle Ages.

The knowledge of the placenta evolved through four periods:
1) The gross anatomical studies of the Renaissance (1453-1628), as shown by writings and drawings of Leonardo da Vinci, Vesalius, Arantius and others.

2) The discovery of the utero-placental circulation by Harvey and his followers (1628-1750)

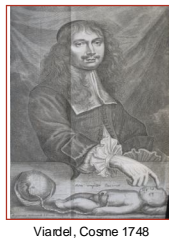
3) Under the Enlightenment and Rationalistic period, John and William Hunter and many others (1750-1850) described the placental circulation and the nature of intervillous space, as well as important breakthroughs in the histology, cytology, embryology and physiology of the human placenta.

4) From the second half of the 19th century to the present the intimate functional knowledge of the complex placental functions has been its main scope.



Leonardo 1510-1513

From Project Gutenberg




Viardel, Cosme 1748



Hunter, William 1774

*The creation of Adam and God-placenta**
J. Mat. Fet. Neon. Med. 2007; 20(2):83-87
Tranquilli A. L., Luccarini A., Emanuelli M.



N.B. Realdus Columbus has been the Teacher of Anatomy of Michelangelo. He also has been his personal Physician.

The hidden placenta: an homage to Realdus Columbus?

Physiology

The placenta is a highly vascularized mammalian foetal-maternal organ and major site of transport of oxygen, nutrients and foetal waste products. It includes a foetal portion, the chorionic villi, derived from trophoblast and a maternal portion, the decidua, derived from uterine endometrium. The placenta produces an array of steroid, protein, and peptide hormones.



Maujeau, François 1673



Hunter, William 1774



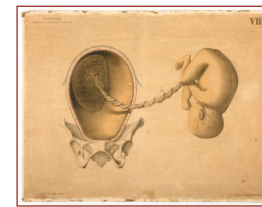
Maygrier, Jacques Pierre 1831



Kilian, Hermann Friederick 1835-1844



Kilian, Hermann Friederick 1835-1844



Schultze, Bernhard Sigmund 1865

Pathology

Many authors studied, in the years, the placenta and its abnormalities as: placenta accreta, abruptio placentae, bilobed placenta, placental insufficiency, placental retained with manual removal, cord loops and knots and so on.



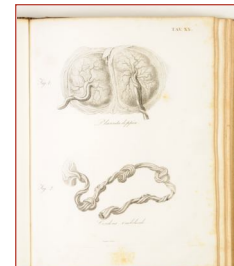
Pineau, Séverin 1599



Portal, Paul 1685



Viardel, Cosme 1748



Maygrier, Jacques Pierre 1831



Velpeau, Alfred A. L. M. 1835



Anatomical wax, 1765

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