



Mother's Day and the Magnificent Uterus

This article was written in celebration of mother's day.

Motherhood means much more than just carrying and delivering a baby. It includes endless acts of loving, teaching, kissing, hugging, encouraging, disciplining and giving. None-the-less, mother's day is a great time to reflect upon a little talked about, but magnificent organ, the uterus.

Each one of us, has spent our formative months cradled within, nurtured by, and ultimately, expelled into the world by a uterus. Cardiologists may believe that the heart is an extraordinary organ; nephrologists might think that kidneys are special, but obstetricians know that the uterus is the most amazing organ!

In the fallopian tube, an egg is invaded by a single sperm (out of 200 million) and fertilization occurs. The fertilized egg, a single cell, begins to multiply. During a 3-day cruise down the fallopian tube, the single cell becomes a cluster of 16 cells that enters the uterine cavity. After further multiplying to over 100 cells, at around day 6, this 'blastocyst' implants itself in the uterine lining, burrowing in like a sand crab, until it is completely covered. At around day 7 a tiny area within the blastocyst begins to differentiate into what will become a human embryo.

The uterine lining, into which the blastocyst invades, is a delicate and perfect environment that provides everything required to support and nourish the developing blastocyst. Menstrual periods occur in women so that this perfect environment, the uterine lining, can be recreated, new each month.

As portions of the blastocyst become placenta and other structures that support the embryo, and the embryo grows to become a fetus, the uterus must grow as well. Like a weight-lifter on steroids, the uterus grows incredibly during pregnancy. It starts out weighing about 2 ounces, about the size of a Roma tomato, growing to a final weight of over 2 pounds, the size of a watermelon, but shaped like an upside-down pear. Its final capacity is 500 to 1000 times greater than at the start of pregnancy. At the end of pregnancy a full 10% of the body's blood circulation is going to the uterus.

Most of the uterus is muscle. The process of labor is one in which those muscles contract. The uterus gets smaller. The baby is squeezed out. We are all forcibly evicted from our first home. Uterine contractions are stimulated by a hormone called pitocin, produced by the pituitary gland at the base of the brain. We still don't know precisely why labor starts.

While the growth of the uterus is remarkable, its reduction in size after delivery is even more remarkable. Within seconds of delivery the uterus contracts to the size of a large apple. In 3-4 weeks it has returned to its original size and weight. Get pregnant again and the whole process is repeated. No heart or kidney can do that! We stand in awe of what mothers and uteruses can do.

Happy mother's day!

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