The miracle of life - lab report example

Health & Medicine

The Miracle of Life

Each sperm is unique because of the process called meiosis. During this time, 23 chromosomes from a man pair up with 23 chromosomes of a woman, resulting in 46 chromosomes. In the process of meiosis, each chromosome makes an exact copy of itself keeping it attached at one point. They create an X-shape when they condense and get together, genes are exchanged. The cell divides twice each time, resulting in 23 egg/sperm cells. Male constantly produce eggs at puberty while females start producing an egg during fetal life (approximately 700 million).

Every month, one of the woman’s ovaries select an immature egg to lavish, to feed by the hundreds of cells until it grows fat and gets ready. It oozes out of the ovary, to the end of the fallopian tube, and to the uterus. Tentacles capture the egg and pull it inside due to the muscular contraction of the tube and the constant swaying of the cilia. This time, the egg is ready to be fertilized by a sperm but it will die within a few hours if not fertilized by a sperm. During sexual intercourse and excitement, sperm squeezed out of the storage and is swept out by glandular fluids such as prostate down to the 15-inch long tube and out through the penis. A teaspoon of fluid with 300 million sperm cells are immediately impaired because of the acidic vagina. Other barriers include the cervix passageway to a uterus that is lock-shut or plugs with mucus that keeps bacteria or sperm out and the protective barrier of the egg itself. But during ovulation, the mucus becomes watery, leaving a channel that can guide sperm through the uterus. It would take 2 days of the swim for sperm to reach its goal but the propelling of the uterine muscles enable the sperm to reach the fallopian tube within 30 minutes. Only the

sperm that can break the zona (thick protein coat of the egg) and can match the protein of the egg is the sperm that can fertilize the egg and fuse with the egg’s inner layer.

The fertilized ovum needs to create a viable embryo by ordering the zona to lock-out other sperm and by finishing meiosis to expel polar bodies. After 24 hours, the egg moves to the fallopian tube and arrives in the uterus five days after. In this stage, the egg is called blastocyst which aims to break the zona and to find the source of nourishment. Blastocyst might be recognized by the mother’s immune system as a foreign body thus, a ball of cells will produce chemicals to suppress the attack and recognize the blastocyst as its own. During the 2nd week, cells are organized into an embryo (gastrulation) and the three layers are formed: lower cells include lungs, liver, and lining of the digestive tract; middle layer includes the heart, muscles, bones, and blood; and the top layer includes the nervous system, spinal cord, outer covering of the skin, brain, and hair. In the 3rd week, the brain, blood vessels, and arms and legs start to develop and the heart starts beating. At 4 ½ weeks, the large brain continues to develop with eyes at the side of the head.

How babies are made is a complex process. It is so amazing that from a single cell, a baby was born. How this process is achieved lies in the secret of life – the genes/DNAs which make up our body.