

Fetus in Fetu

Fetus in fetu is a rare variety of parasitic twins, where the developmentally abnormal parasitic twin is completely encapsulated within the torso of the otherwise normally developed host twin. In the late eighteenth century, German anatomist Johann Friedrich Meckel was the first to describe fetus in fetu, which translates to fetus within fetus. Fetus in fetu is thought to result from the unequal division of the totipotent inner cell mass, the mass of cells that is the ancestral precursor to all cells in the body. The unequal division is thought to occur during the formation of the blastocyst, which can also result in parasitic and conjoined twins. Fetus in fetu represents a developmental anomaly that has prompted developmental biologists to further examine the mechanisms for how twins arise.

In the past, scientists speculated that fetus in fetu was the result of a highly developed teratoma rather than the product of abnormal embryonic development. Teratomas are tumors composed of tissues foreign to the area of the body in which they are found, and can include hair, teeth, bone, and organ tissues. Teratomas are the most common type of brain tumor found in infants, and are potentially malignant.

In order to classify an abdominal growth as fetus in fetu rather than a teratoma, several characteristics must be present. Fetus in fetu is a benign growth of embryological origin, and is located behind the abdomen lining of the host twin. To diagnose fetus in fetu there must be evidence of body plan organization, including vertebrae, limb buds, and organ tissues. Abdominal radiographs, computed tomography scans (CT scans), and ultrasonography are helpful technologies for doctors to determine whether a mass is a teratoma or fetus in fetu.

Individuals diagnosed with fetus in fetu generally have the parasitic twin excised, as the mass poses risks to the host twin because the mass may continually increase in size. Increased mass can lead to hemorrhaging in the host twin, and it may increase pressure on the host twin's diaphragm, which can lead to trouble with breathing and potentially suffocation.

With less than 100 known cases worldwide, when fetus in fetu occurs, the event often receives international media attention. With advanced technology, doctors can easily detect fetus in fetu, and parents of infants with this medical anomaly are often encouraged to surgically remove the abnormal mass of tissue to improve the quality of life of the host twin.

Sources

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