

# **The significance of ultrasound examination in the management of experimental uterine transplantation**

## **Abstract**

Uterine transplantation (UTx) represents a new experimental method of treatment of absolute uterine factor infertility (AUI), which includes inability to conceive and deliver as a result of absence of the uterus. This can be congenital (Mayer-Rokitansky-Küster-Hauser syndrome (MRKH)) or acquired (after hysterectomy, severe congenital uterine malformations). For a woman affected this way is the uterine transplantation the only way to give birth to a child by herself. This is a very sophisticated and invasive procedure for the treatment of sterility with promising results, but the woman – recipient of the uterus – is burdened by at least three abdominal surgeries (transplantation, Caesarean section, explantation), in vitro fertilization and by the need to use immunosuppressive therapy. The dissertation summarizes current knowledge on this issue from the perspective of a gynecologist-obstetrician, who regularly examined by ultrasound or gynecologically participants in the Czech uterine transplant study in 2016-2019, which was carried out on the basis of a cooperation agreement between two Prague hospitals - IKEM and FN Motol.

The set contains data on ten patients with a transplanted uterus, five from a living donor, five from a deceased donor. It is currently still one of the largest sets in the world. The work aimed to determine the possibilities of ultrasound diagnostics in the selection of suitable donors, in the monitoring and detection of complications in the early and late postoperative period and in subsequent pregnancies.

From the point of view of an ultrasound examiner, pre-transplant screening of donors and selected important postoperative complications (graft thrombosis, infection (both with the need for subsequent uterine explantation) and stenosis of vaginal anastomoses) are described.

Successful and unsuccessful pregnancies are also described in detail, including the risks to the baby, which is the only goal of this complicated treatment.