

WHAT ARE THE PREGNANCY AND LIVE BIRTH RATES IN OVARIAN TISSUE TRANSPLANTATION AND WHAT FACTORS ARE ASSOCIATED WITH SUCCESS RATES? DATA FROM 196 WOMEN FROM THE FERTIPROTEKT NETWORK

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Abstract Body

Introduction: Ovarian tissue cryopreservation has become an increasingly common technique for preserving fertility before cytotoxic treatments. The aim of the present study was to update the results of ovarian tissue transplantation performed in the FertiPROTEKT network in terms of pregnancy and live birth rates, which reflect the situation in most countries where many centres are involved in transplantation. The study also aimed to define factors associated with pregnancy and live birth rates, such as the age of the woman, first or repeat transplantation and transplant centre experience

Material/Method: In this registry analysis from the FertiPROTEKT network 244 ovarian tissue transplantations were performed in 196 women from 2007 to the end of 2019. Transplants were evaluated through the end of 2020 to allow follow-up of at least 12 months after transplantation. The transplants were performed at 26 centers (transplants per center ranged from 1 to 100; median: 2). Ovarian tissue was transplanted orthotopically into a peritoneal pocket (87.5%) and/or into the ovary (4.5%) or into both areas (8.1%).

Results: The mean age of the 196 women was 31.3 years (SD, standard deviation, 5.2; range, 17-44) at the time of ovarian tissue cryopreservation and 35.9 years (SD 4.8; range, 23-47) at transplantation. The pregnancy rate was 30.6% (95% CI, 24.2-37.6%) per first transplant and 32.7% (95% CI, 26.1-39.7%) per patient. The success rate decreased with increasing age at the time of ovarian tissue freezing. The live birth rate was 28.2% (95% CI, 20.9-36.3%) in women <35 years and 16.7% (95% CI, 7.9-29.3%) in women >35 years. The pregnancy rate was higher after first transplant (30.6% (95% CI, 24.2-37.6%)) than after the second and subsequent transplants (11.8% (95% CI, 3.3-27.5%)). The live birth rate per first transplant was 25.0% (95% CI, 19.1-31.7%) and per patient was 26.5% (95% CI, 20.5-33.3%). Pregnancy rates after the first transplant were higher in centers that performed ≥ 10 transplants (35.1%) than in centers with <10 transplants (25.4%) ($p=0.12$). The corresponding live birth rates were 27.0% and 18.6%.

Conclusion: The study shows the high potential of ovarian tissue freezing and transplantation, but only when freezing is performed in younger women. The study suggests that the focus should be on initial rather than repeat transplantation. It also opens the discussion on whether transplantation should be performed more by experienced centers.