

Late maternity: natural fertility and ART

Late maternity means fertility for women >35 but this group is assorted. According to WHO determination age of 35-44 - late reproduction, 45-49 – premenopause, >49 - postreproduction (menopause). Different physiological abilities of fecundity imply that normal natural fertility begins to reduce to subfertility or infertility for women >35 and pregnancy with own oocytes is impossible for women >45, they need special ART programs.

Russia 1999-2006: investigation of quantity and quality of late maternity. Data base: data of Russian Federal State Statistic Service, statistic of ESHRE (European Society of Human Reproduction and Embryology, European IVF Monitoring), ASRM (American Society of Reproductive Medicine), IFFS (International Federation of Fertility Societies, Surveillance-2004, 2007), RAHR (Russian Association of Human Reproduction, ART monitoring), investigation of patients of Scientific Center of Obstetrics, Gynecology and Perinatology (Russian Academy of Medical Sciences, Moscow, 1999-2006).

Late fertility growth began in Russia in the end of 1990-th and it is continuing up today but the dynamic is different in different groups. In 2004-2005 age specific fertility rates for 35-39 (17,6⁰/₀₀ and 17,8⁰/₀₀) were higher than these one in 1991 (the last year before depopulation, 16,0⁰/₀₀). Age specific fertility rates for 40-44 and 45+ were near the same (3,2⁰/₀₀ and 0,2⁰/₀₀ in 2005), but absolute birth number in the eldest groups is raising continuously. During 1991-2005 mothers of premenopause and postreproductive age born 10391 babies (0,5% of total live births): 45-49 – 10067 (+76,7%), 50 and over – 324 (+45,8%).

During this period 68-71% of total births were urban fertility (73% - urbanization rate). For group of 35-39 the situation is the same (68-73%), moreover after 2003 share of urban fertility of the group in total fertility of this group is rather high than share of urban fertility 15-49 in total fertility (73,19% и 71,15% в 2005 г.). For group of 40-44 share of urban fertility (64-68%) was lower than share of total fertility (68-71%), and the gap is remaining. In ages of premenopause share of urban fertility was more lower (50-60% in 1991-98), but it

began to increase in 1999 and reached 66,3% in 2005. Absolute maximum of births for women at 50 was in 2005 г. – 35 babies (27 city-born), majority after ART.

Russian reproductive legislation virtually doesn't limit women's age for ART and doesn't forbid any one. Generally it speaks about "child-bearing age" which is treated individually, only reproductive donation and surrogacy have concrete limitation (age of 20-35). Under the conditions of paid reproductive medicine accessibility of ART depends on their cost and share of patients at 35 differentiates in ART programs: 30-40% in IVF and ICSI, 60-70% in oocyte donation (2003). Characteristics of pregnancies of patients >45 are that success of treatment depends not so much on modification of ART schemas as individual ovarian reserve. Oocyte donation creates additional moral problems but duplicates possibility of pregnancy for them (2006).

Requirement into medical consultation for patients of elder reproductive ages is raising continuously. In five year period number of these patient threefold (analyze of medical cards Scientific Center of Obstetrics, Gynecology and Perinatology, Moscow, 2002-2006). Main reasons for consultation – new marriage, especially with elder man, and long-term unsuccessful infertility treatment (n=200, age of 36-50). Their health conditions correlated with age: half patients had somatic diseases and gynecological pathologies, all of them had weak ovarian reserve. The effectiveness of treatment for them doesn't depend on schemas of ART and requires treatment both woman and man, but the man often refuses.

Fertility in age of 35-39 in case of good reproductive health often is realization of postponed births and depends on socio-economic factors (income, marital status, education etc), it is natural fertility. ART, if it is necessary, have good results (up to 80% for three IVF attempts).

In elder ages probability of natural pregnancies reduces and fertility of women elder 45 fully depends on ART, thereto number of effective programs strongly limits. Fertility in this age becomes not factor of population growth but factor of life quality.