

Does Paternal Age Affect IVF Results?

Over the past few decades there has been a trend towards delayed childbearing in developed countries like the U.S. Several factors including changing patterns of marriage and divorce may be contributing to this observation. It is well known that advancing maternal age negatively affects fertility and increases the risk of adverse outcomes and complications in pregnancy. Women's fertility is known to peak between the ages of 22 to 26, substantially decreases after 35 and sharply declines after 39 years. The lower fertility in aging women is primarily due to 'ovarian aging' with reduced quality and reduced numbers of oocytes (decreased ovarian reserve). Whether increasing age of the father influences the outcome of in vitro fertilization (IVF) outcomes is less clear. There are relatively few studies looking at the effect of paternal age on the outcome of in vitro fertilization and their results are often conflicting. Recently, a group of investigators from Carmel Medical Center in Haifa, Israel published a review article looking at the effects of male age on IVF results.

Increasing male age (at least over 40 years) has been shown in previous studies to be associated with lower fertility, an increase in pregnancy-associated complications (as miscarriage rate, preeclampsia, possibly uteroplacental bleeding disorders, preterm delivery and cesarean section) and an increase in adverse outcome in the offspring. The authors of the Israeli study reviewed 10 published articles regarding male age and IVF and found that there was not a clear correlation between advanced paternal age and rates of fertilization, implantation of embryos, pregnancy, miscarriage, and live birth. Only four studies reviewed examined the effect of male age on the live birth rate in IVF. Two did not find a significant correlation, and two others reported a significant decrease in the chance for a successful live birth delivery with advancing age. In terms of sperm quality, except for ejaculation fluid volume, characteristics of semen such as sperm motility, concentration, and morphology did not decrease with age.

In summary, despite an increasing number of men over 40 years of age attempting to father children with IVF, these authors could not identify clear evidence of an adverse effect of male age on the likelihood of success from IVF treatment. Given the limited number of studies on the subject, more research is needed to further clarify this important issue.

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