

**The role of genetic counselor for the postpartum psychological distress
for women undergoing NIPT**

Eri Takeda (Okazaki)

Pregnancy and childbirth affect women's psychological state. One of them, postpartum depression (PPD) is more likely to develop depression than non-pregnant women. PPD is depressive symptoms lasting for more than two weeks, occurring in 9.0% of pregnant women in Japan. Risk factors of PPD include pregnancy anxiety, advanced maternal age (AMA), first birth, multiple conception, mental illness of pre-pregnancy, violence from partners and lack of social support. With early detection and treatment of PPD, there is the possibility of preventing undesirable effects not only on women but also on children and families. Untreated maternal depression might cause some negative effects on women, their children and families. According to a survey on maternal abnormal death in the 23 wards of Tokyo (2005-2014), it was found that 63 women committed suicide during pregnancy and in one year postpartum. This figure accounts for 8.7 per 100,000 births. Considering the maternal mortality rate, namely 3.8 per 100,000 births (2015), it is suggested that PPD showed be the most factor in maternal death. Thus, it is important to detect maternal depression early and accurately, because the influence of PPD leads to a big social problem. And, the importance of the perinatal mental health is emphasized. On the other hand, the number of AMA, assisted reproductive technology (ART), and prenatal diagnosis is increasing in Japan. The women underwent prenatal diagnosis was further increasing by report of Noninvasive prenatal testing (NIPT), which has been clinically available since April 2013. A previous study reported that pregnant women who underwent NIPT tended to have relatively high scores of depression and anxiety. This report suggests that pregnant women undergoing NIPT have factors susceptible to postpartum depression. However, no reports have investigated postpartum depression of pregnant women who underwent NIPT. Therefore, the purpose of this study is to examine the mental distress of pregnant women who underwent NIPT, and I tried to consider "The role of genetic counselor for the postpartum psychological distress for women undergoing NIPT".

In the first study, I assessed the background of couples who were undergoing NIPT against Japanese Demographic Trends. As a result, the couples who were underwent NIPT trended to be older women. In addition, the maternal age at marriage, age at

first live birth and the duration between marriage trended to be higher, and first birth tended to be greater. Also, the rate of the women who underwent ART tended to be higher. From these results, the couples who underwent NIPT tend to have a background of increasing mental distress. And, my result is a factor that raises the incidence of twin pregnancies, the number of twin pregnancies wishing to NIPT will increase. Also, twin pregnancies is a psychosocial burden during pregnancy and postpartum. However, data on NIPT test performance and neonatal outcome for twin pregnancies are limited.

Therefore, the next study was to describe the characteristics of women with twin pregnancies undergoing NIPT and postpartum and neonatal outcome. My results was showed high performance of similar to singleton pregnancy, though the data for twin pregnancies was limited.

Based on these results, I focused on the “postpartum” mental distress relating to child, and investigated the factor that enhances postpartum distress in the women who underwent NIPT. As a result, even if women undergo NIPT do not feel mental distress before NIPT, the women may feel mental distress in postpartum. Also, the primipara, women who conceived through ART (especially intracytoplasmic sperm injection (ICSI)) and gave birth to low-birth-weight baby were found to be a factor that enhances postpartum distress. From these results, I suggested that genetic counseling for NIPT should play a role to pick up patients with depressive symptoms. Also, a genetic counselor is important as occupation to support postpartum mental distress.

Genetic counselors have roles as clinician, as advocates, as educators and as researchers. The women and their family including “women undergoing NIPT” are supported by other professions including pediatricians, obstetricians, midwives, public health nurse and psychology profession such as psychiatrists and clinical psychologists, and by other department including medical institutions, local communities, society and welfare. For genetic counselors it is important to provide comprehensive support for that women. Therefore, genetic counselors can make a better approach to “postpartum psychological distress for women undergoing NIPT”.