



Anxiety for procedures or anxiety for results

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Successful pregnancy and subsequently healthy live birth is one of most exciting events in majority of couples.¹ However, it is not always easy. Subfertility and infertility make the pregnancy difficult or impossible, and many of them need help by modern assisted reproductive technology.^{2,3} Miscarriage or premature preterm labors make pregnancy loss, which is a long-term biggest challenge for both physicians and pregnant women.⁴⁻⁶ Pregnancy-related adverse events and concerns of well-being of the fetus make couples anxious and fearful during the entire pregnancy course.⁷⁻¹¹ All contribute to psychological stress for all couples that want to establish a healthy family. In this February issue of the *Journal of the Chinese Medical Association*, Dr. CM Kang retrospectively evaluated the effects of psychological intervention on pregnant women who needed an invasive perinatal diagnosis and found that psychological intervention before procedure, including fully understanding psychological status, giving psychological guidance, calming the anxiety and fear, and building confidence to whether the pregnancy stages before and after the procedure, will improve the success rate of puncture and reduce the incidence of complications.¹² We congratulate author's successful publication and since the relevant studies are important, we are happy to comment this article.

Amniocentesis is one of the most frequently procedures to confirm the chromosomal abnormalities of fetus in pregnant women, although now noninvasive prenatal testing (NIPT) has become one of most popular tools worldwide to detect common chromosomal aneuploidies.^{13,14} However, NIPT is a nondiagnostic test, and positive test results need to be confirmed by a definitive diagnostic test, such as amniocentesis.¹⁴ It is more reasonable to believe that these pregnant women undergoing amniocentesis may have different indications, such as advanced maternal age, positive screening test (NIPT), and structure abnormalities detected by ultrasound.^{15,16} Among these indications, fetal abnormalities detected either by ultrasound may contribute to certain percentage of them. By contrast, some pregnant women undergoing amniocentesis may belong to the

relative “low risk”, and this low-risk group might be biased by many factors. Since Dr. Kang's study was a retrospective study, the indication for amniocentesis might be needed. Without these data, the risk of selection bias is high. Why this view is important? If structure abnormalities of fetus are present, the results of a further amniocentesis might be a critical factor for the fetus fate—continuous or discontinuous pregnancy. It is reasonable to believe that baseline of psychological problem may be significantly different between “expected” and “unexpected” results in these pregnant women who should face these challenges.

Amniocentesis, itself, is an invasive procedure. Therefore, experience of pregnant women might influence their response. This also emphasizes the importance of baseline background, or history. All pregnant women were the fresh cases, who did not have amniocentesis before. It is reasonable to believe that experience of previous procedure is also an important confounding factor to affect the psychological status of the pregnant women undergoing amniocentesis. Unfortunately, Dr. Kang did not provide the data.

Since the current study needs to introduce the goal to the research subjects, we do not know this explanation can be neglected that women in the controls have not been treated with psychological intervention. In addition, we are wondering whether the standard guidelines and preparation protocol of pregnant women who need amniocentesis in Dr. Kang's hospital. Based on the description of psychological intervention methods intervention group, we cannot find any additional psychological support procedures in the aforementioned group. Psychological support, introducing the procedure, relaxation training, and family support are all included in prenatal consultation in our hospital. Therefore, it is difficult to know what is difference between psychological support and standard group in the current study.

It is interesting to find higher success rate of amniocentesis in intervention group and little time needing to finish amniocentesis in intervention group in the current study. What is the success rate? Although it is not clear what is the definition of the success rate in Dr. Kang's study, we believe there are at least three components to be fulfilled, including (a) adequate amount of amniotic fluid should be obtained, (b) the culture of amniocytes should be successful, and (c) the final chromosome analysis should have an informative result. We are also wondering to know why Dr. Kang said duration of the procedure is shorter in intervention group. Did the author mean that the first aspiration rate was higher in intervention group? Alternatively, times of obtaining amniotic fluid may be higher in controls. If two or higher attempts of aspiration for amniotic fluid occurred

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frequently in controls, the author's conclusion can be easily and fully understood.

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