REVIEW

From Prof. Dr. Elena Dimitrakova, MD, PhD

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Regarding the dissertation work for awarding the scientific-educational degree "Doctor", scientific specialty Obstetrics and Gynecology (03.01.45), Department of Obstetrics and Gynecology, Medical University - Varna.

Dissertation work topic: **"Contemporary ultrasound methods for diagnose and clinical follow up of pregnancies complicated with placenta previa and placenta accreta"**

Author – **Dr. Jeni Iordanova Panaiotova**

Research Supervisor: Prof. Dr. Ivan Kostov, MD, PhD, DSc.
Research Consultant: Prof. Dr. Emil Kovachev, MD, PhD, DSc

The submitted thesis for defense contains a total of 141 standard pages and is illustrated with 48 tables, 18 graphics and 42 figures. The bibliographic reference contains 214 literary sources, of which 6 are in Cyrillic and 208 are in Latin.

Timeliness of the problem

In her work, Dr. Panaiotova discussed an actual problem of medical and social importance. Despite significant medical advances, placenta previa and placenta accreta are still obstetric conditions associated with high maternal and perinatal morbidity and mortality. Over the past few decades, there has been an increase in the incidence of placenta previa and placenta accreta. This is due, on the one hand, to the widespread use of ultrasound technology in the diagnosis of these conditions, but on the other hand, a large role is played by the increase in the frequency of Caesarean Sections, multiparity, repeated intrauterine curettages, an increase in the average

maternal age and an increase in the frequency of pregnancies that occurred after assisted reproduction.

A review of the literature review clearly shows that Dr. Panaiotova has thoroughly studied a variety of contemporary literary sources. The analysis of literary data clearly emphasizes the relevance of the treated problems.

Aim of the study: To estimate the incidence, risk factors, ultrasound markers and ultrasound criteria, the sensitivity and specificity of the ultrasound method, optimal time for making the diagnosis and delivery in pregnancy complicated with placenta previa and placenta accreta and to estimate the diagnostic accuracy of proposed obstetric protocols of follow up and management in pregnancies complicated with placenta previa and placenta accreta.

Tasks of the study are clearly formulated and are 9:

1. To estimate the incidence of PP and PA in the general population.

2. To estimate the incidence of PA in general population and in high risk for PA group.

3. To define the risk factors for PP and PA and to examine the association between the incidence of PP and PA and number of prior cesarean deliveries.

4. To define the ultrasound criteria and optimal time for making the diagnosis of PP, examining placenta migration and to assess the accuracy of ultrasound markers used in diagnosis of PA.

5. To estimate the sensitivity and specificity of ultrasound method in diagnosis of PP and PA and to estimate the diagnostic accuracy of screening strategy for early prediction of placenta accreta.

6. To create a score system for diagnosis of PA.

7. To examine the average gestational age at delivery in pregnancies complicated with PP and PA and to estimate the diagnostic applicability of the optimal one used for the purpose of the study.

8. To examine the relation between the delivery of blood lost in the pregnancies complicated with PP and PA and the time and method of delivery.

9. To create obstetric protocol for clinical, follow up and management in pregnancies complicated with PP and PA.

Materials and methods

In the "**Materials and methods**" section, the study group is specifically and accurately identified. The study was a prospective study of women with a singleton pregnancy attending for a routine hospital visit at 11-13 weeks' gestation at King's College Hospital, London, UK, between August 2013 and August 2016. Study population of 22,604 singleton pregnancies with a live fetus and CRL of 45-84 mm. The final study population 21,474 singleton pregnancies for the study period- 1,130 (5%) cases, were excluded, because there was miscarriage, pregnancy termination or no follow-up.

Own results and discussion

Based on the results of the research, the dissertation shows that the incidence of PP in the studied population is 0.7%, and for PA - 0.1%. In the group with a previous Cesarean Section, the incidence of both pathologies was higher for PP, 1.3%, and for PA, respectively, 0.4%. An interesting fact is that the highest incidence of PP and PA was registered in the high-risk group, which for PP was found to be around 3.5%, and for PA, respectively, 1.3%.

Evaluation of conclusions and contributions

In her work, Dr. Panaiotova formulates 9 conclusions and 9 contributions, dividing her contributions into two categories: contributions of an original nature and contributions of a confirmatory nature. It is especially important to highlight original contributions, namely:

1. Development of a screening method in the first trimester of pregnancy, for early prediction and correct obstetric management in PA cases.

2. Development of clinical protocols for follow up and obstetric management in pregnancies complicated with PP and PA.

3. Development of a score system for the diagnosis of PA cases.

Critical notes and tips

Dr. Panaiotova has complied with previously made critical comments.

Teaching and learning activity

Dr. Jeni Panaiotova graduated in medicine in 2007 at the Sofia University. She began her specialization in "Obstetrics and Gynecology" in 2008 at II SAGBAL "Sheynovo" EAD. In 2011, she went to specialize at the Fetal Medicine Foundation (FMF) in London, where she studied with Prof. Kypros Nicolaides, a world-leading specialist in Fetal Medicine, three years later she obtained a Diploma in Fetal Medicine.
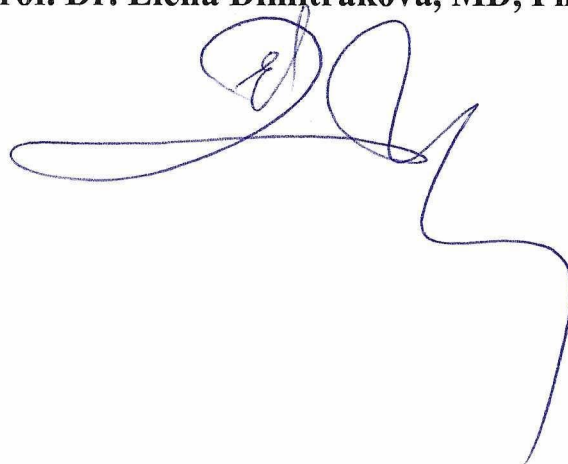
In 2014, she continued her specialization at SBALAG "Maichin dom" and acquired a specialty in "Obstetrics and Gynecology" in 2016. She currently works at Nadezhda Women Health Hospital - Sofia.

Conclusion

In conclusion, the presented dissertation work of Dr. Panaiotova " **Contemporary ultrasound methods for diagnose and clinical follow up of pregnancies complicated with placenta previa and placenta accreta** " has high value and scientific-practical application on a topical problem in clinical practice. I take the liberty of recommending to the respected members of the Scientific Jury to vote positively for awarding the scientific and educational degree "Doctor" in the scientific specialty "Obstetrics and Gynecology" to Dr. Jeni Panaiotova, according to the Regulations for the Development of the Academic Staff at the Medical University - Varna .

Дата: 22.05.2023г.   Prof. Dr. Elena Dimitrakova, MD, PhD