

REVIEW

From: **Ass. Prof. Dr. Kremen Tsvetkov, MD, PhD**

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Regarding the dissertation work of **Dr. Jeni Jordanova Panaiotova**

Topic:

„Contemporary ultrasound methods for diagnose and clinical follow up of pregnancies complicated with placenta previa and placenta accreta“

for awarding the scientific-educational degree "Doctor", scientific specialty Obstetrics and Gynecology

I. Summary data about the applicant

Dr. Jeni Panaiotova graduated in medicine in 2007 at the Medical University, Sofia. 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 under Prof. Kypros Nicolaides, a world-leading specialist in Fetal Medicine. 3 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.

Dr. Panayotova's dissertation contains 141 pages and is illustrated with 42 figures, 48 tables and 18 graphs. A reference to scientific contributions, a list of publications related to the topic of the work is attached. The cited bibliography covers 214 literary sources, of which 6 are in Cyrillic and 208 are in Latin. The dissertation is structured according to established requirements.

II. Relevance of the topic

In her dissertation work, Dr. Panaiotova has developed a problem that is particularly relevant worldwide and in Bulgaria. Despite significant medical advances, placenta previa and placenta accreta are still obstetric conditions associated with high maternal and perinatal morbidity and mortality. In recent years, 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 diagnosis of these conditions, and on the other hand, a large role is played by the increase in the frequency of Caesarean Sections, multiparity, frequent intrauterine curettages, the increase in the average maternal age and the increase in the frequency of pregnancies after assisted reproduction .

The gold standard in the diagnosis of placenta previa and placenta accreta is the ultrasound examination. Knowing the ultrasound images characteristic of placenta previa and placenta accreta is of utmost importance for making a timely diagnosis, which will lead to correct obstetric management during pregnancy. Early diagnosis based on the ultrasound method and correct obstetric management are key to the favorable outcome of each pregnancy.

In the **literature review**, Dr. Panaiotova has systematized and discussed the current opinions. The analysis of literary data clearly emphasizes the relevance of the treated problems. The formulation of the set goals and objectives based on the analysis of the literature data are the basis for the analysis and interpretation of the obtained results.

Goal setting and tasks are clear. **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.

In the "**Materials and methods**" section, the study group is specifically and accurately identified. The study is 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. The author specifies very precisely the inclusion and exclusion criteria, which is an approach that guarantees exactly the maximum credibility of the subsequent conclusions. Statistical processing is based on primary data processing, statistical analysis and graphical representation.

The "**Results and discussion**" section is presented in 5 subsections in accordance with the tasks of the dissertation, which makes the presented data more transparent. The results are summarized in simplified tables and graphs that illustrate the author's conclusions.

In conclusion, Dr. Panaiotova emphasizes that the incidence of PP in the studied population was found to be around 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%.

As a result of the analysis, **9 conclusions** were formulated in the proposed dissertation work.

Notes and recommendations:

The bibliography covers 214 literary sources, shows a broad overview of the experience on the subject in world literature. This is a serious basis for the correct formulation of the goals and tasks of the scientific work, as well as the interpretation of the obtained results.

As **contributions of an original nature**, I believe that the following should be highlighted:

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.

The rest of the contributions mentioned by the dissertation have a **confirmatory nature**.

III. Conclusions

The dissertation work presented by Dr. Jeni Panaiotova fulfills the criteria for a scientific work with a clinical and practical orientation in the way of development, the methods of implementation, the content and the form of presentation.

The author's conclusions are well illustrated in the text with figures, diagrams and tables.

The judgment is that the dissertation student has successfully coped with the assigned tasks.

In general, it is clear from the above that:

1. The set goal and tasks of the considered problem have been successfully solved.
2. The development, summary and conclusions in the dissertation work in many points are theoretically and practically useful.
3. The final result of the work is undoubtedly positive and represents a serious scientific and practical contribution.

The presented dissertation work on the topic "**Contemporary ultrasound methods for diagnose and clinical follow up of pregnancies complicated with placenta previa and placenta accreta**" has the qualities of a dissertationable scientific development, which is why I give my completely **positive** assessment.

I propose to the respected Scientific Jury to vote positively for awarding the educational and scientific degree "Doctor", in the scientific specialty "Obstetrics and Gynecology" to Dr. Jeni Iordanova Panaiotova.

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