

REVIEW

by

Prof. Dr. Elena Dimitrova Dimitrakova, MD.

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Head of the Maternity Ward, "St. Georgi" - Plovdiv,

External member of the Scientific Jury,

Determined by Order No. R-109-288/12.07.2022.

Regarding: dissertation work on the topic: "Diagnostic approaches and clinical management in hydronephrosis during pregnancy" by Dr. Zlatka Georgieva Dimitrova - Sandulova for awarding the educational and scientific degree "Doctor", Higher Education Area: 7. Health Care and Sports, Professional Direction 7.1 Medicine, Scientific specialty "Obstetrics and Gynecology", Department of Obstetrics and Gynecology.

BRIEF BIOGRAPHICAL DATA AND CAREER PROFILE OF THE CANDIDATE

Dr. Zlatka Sandulova was born on January 20, 1982. She completed her secondary education at the PMG "Geo Milev" Stara Zagora in 2000 and in 2007 graduated as a "Master of Medicine" at Medical University - Varna. In 2017 she acquired the specialty "Obstetrics and Gynecology".

2007-2014 Dr.Zlatka Sandulova was working as a resident doctor at Emergency medical center, Stara Zagora. Since 2016 and currently works as a resident physician at SBAGAL "Prof. Dr. D. Stamatov" - Varna, and since 2017 she is an assistant at the Department of Obstetrics and Gynecology at the University of Varna, where she is enrolled as a PhD student, full-time, in the same Department.

She speaks English and French and has excellent computer literacy.

Dr. Sandulova is a member of BMA and Bulgarian Society of Obstetrics and Gynecology

SIGNIFICANCE OF THE PROBLEM

The subject of the dissertation study is an actual and important problem for clinical practice.

Adaptation processes take place in the body of the pregnant woman in response to the developing fetus. A good knowledge of the occurring changes is extremely important in order to correctly distinguish them from possible pathology. This physiological condition found in

nearly 90% of pregnant women is dilatation of the upper urinary tract. More often it is transient and does not have a significant impact either on the health of the mother or on the development of the fetus. This adaptive phenomenon is known as "physiological hydronephrosis" and reverses shortly after delivery. Sometimes the dilatation of the upper urinary tract can become pathological. Therefore, the question of when a physiological dilatation turns into a pathological hydronephrosis requiring intervention is debatable and with an ambiguous answer, even more so in the context of a pregnancy. Debates about what the diagnostic approach should be, when and who should provide active treatment are substantial. Widely available ultrasound examination and especially the introduction of MRI will likely contribute to changing diagnostic algorithms.

The problem acquires additional significance due to the tendency in recent years for women to plan pregnancy at an older age on one hand, and on the other - due to the increasing frequency of chronic kidney diseases. The potential risk of complications such as preeclampsia and premature birth is also extremely significant. In this sense, an interdisciplinary approach to treat these patients is of a great importance in order to ensure a timely diagnosis, adequate therapy and prevention of the complications.

Based on the above, I define the subject of the dissertation as well chosen.

The aim of the peer-reviewed dissertation is to compare diagnostic approaches and to examine the clinical management of pregnant women with hydronephrosis in the first and second half of pregnancy.

To achieve this goal, the author sets herself 7 clearly formulated tasks.

1. To study the Bulgarian and foreign literature on contemporary trends in the diagnostic and treatment management of hydronephrosis during pregnancy.
2. To perform a prospective and retrospective analysis of a group of patients with symptomatic hydronephrosis, diagnosed and treated in the Department of Pathological Pregnancy at SBAGAL "Prof. Dr. D. Stamatov" city of Varna and Urology Clinic at the MHAT "St. Anna" in the city of Varna for the period 2019-2021 with the aim of creating current complex diagnostic and therapeutic algorithm.
3. To study the effectiveness of the diagnostic methods used in the practice of obstetricians and gynecologists and urologists during the first half of pregnancy

4. To evaluate the effectiveness of the diagnostic methods used in the practice of obstetricians and gynecologists and urologists during the second half of pregnancy
5. To specify the indications, used treatment methods and complications during the first half of pregnancy
6. To summarise the indications, used treatment methods and complications in the second half of pregnancy
7. To compose and propose an approach for algorithm in hydronephrosis during pregnancy.

STRUCTURE OF THE DISSERTATION WORK

The presented dissertation work has the classical structure. It contains 135 standard pages and includes the following sections: introduction, literature review, aim and objectives, material and methods, results, discussion, conclusions, contributions, bibliography. The bibliography is represented by 286 literary sources, 17 of which are in Cyrillic and 269 in Latin.

The dissertation is illustrated with 41 tables and 25 figures.

The literature review occupies 43 pages, thus maintaining the proportion between the individual parts. In it, Dr. Sandulova dwells on basic concepts in nephrology, examines various diagnostic methods and indicates the treatment methods for the corresponding kidney pathology.

MATERIALS AND METHODS: The included cohort included 184 pregnant patients with evidence of symptomatic hydronephrosis. The inclusion and exclusion criteria are clearly formulated. The study was conducted in the period 2019-2021 and has a retro- and prospective nature. Clinical material from the Department of Pathological Pregnancy of SBAGAL "Prof. Dr. D. Stamatov"- Varna and Urology Clinic of MHAT "St. Anna"- Varna was used.

The PhD student uses a wide range of methods: clinical, paraclinical and instrumental, epidemiological and statistical.

OWN RESULTS: the information obtained from the study can be summarized as follows:

- There is the following age distribution in pregnant women with hydronephrosis: up to 20 years old - 18.48%, 42.94% -20-29 years old, 34.78% - 30-39 years old and 3.80% in pregnant women over 40 yr.;

- According to the side of the kidney involvement, right-sided one is reported in 77.71% of cases, left-sided in 14.65% and bilateral in 7.61%.
- According to the gestational age, hydronephrosis is reported in 80.98% of pregnant women after 20 g.w. and 19.02% - up to 20 g.w.
- According to the degree of dilatation, the obtained results indicate 43.48% - first degree, 48.94% - second degree, 7.61% - third degree.

Dr. Sandulova formulated 9 conclusions, and I would point out number 9 as an excellent one.

DISSERTATION CONTRIBUTIONS

There are those of an original, confirmatory and scientific-practical character:

Symptomatic hydronephrosis in pregnant women was studied and analyzed for the first time in Bulgaria and a diagnostic and treatment algorithm was developed.

Existing results regarding gestational age, side of involvement, urine isolate, etc. are confirmed.

CONCLUSION

The peer-reviewed dissertation is a thorough and useful study for obstetric, nephrology and urology practices. The PhD student submits a list of a sufficient number of publications and meets the requirements of the Law for the development of the academic staff in the Republic of Bulgaria (ZRASRB), the Rules for its implementation and the relevant Rules of the Medical university - Varna.

Based on the above, it gives me the reason and I recommend to the esteemed members of the Scientific Jury to vote positively for for awarding the educational and scientific degree "Doctor" to Dr. Zlatka Dimitrova-Sandulova.

16.08.2022

City. Plovdiv

The review was prepared by:

Prof. Dr. Elena Dimitrakova, MD

