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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии
საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

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GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman (Кириллица)**, для текста на грузинском языке следует использовать **AcadNusx**. Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - <http://www.spinesurgery.ru/files/publish.pdf> и http://www.nlm.nih.gov/bsd/uniform_requirements.html В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректурa авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or computer-printed on a single side of standard typing paper, with the left margin of 3 centimeters width, and 1.5 spacing between the lines, typeface - **Times New Roman (Cyrillic)**, print size - 12 (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf

In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

**Articles that Fail to Meet the Aforementioned
Requirements are not Assigned to be Reviewed.**

ავტორთა საქურაღებოლ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დაიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx**. შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შედეგის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფხიხლებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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PRETERM BIRTH PREVENTION IN MULTIFETAL PREGNANCIES: A RETROSPECTIVE STUDY ON CERVICAL PESSARY EFFICACY

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Abstract.

Aim of the study: The assessment of the efficacy of pessary in Preterm Birth (PB) prevention in patients with multifetal pregnancies.

Material and methods: The retrospective cohort study was conducted in the Perinatal Department of Gudushauri National Medical Center from 2020 to 2024 and included 226 women only with multifetal pregnancies and threatened PB. The patients were divided into three groups: group I – 68 patients who conceived naturally and a pessary was used to prevent the preterm delivery; group II – 84 pregnant women after assistive reproductive technologies (ART) and the treatment of premature birth was also provided using a pessary; and group III - 74 women with threatened preterm delivery in whom a pessary was not used for the prevention. In all cases the pessaries were inserted between 14-24 weeks of gestation. The difference was statistically significant if $P < 0.05$.

Results: In group I, the frequency of late preterm delivery - $n=35$ (51.47%) was statistically significantly higher compared to moderate - $n=24$ (35.29%), very preterm - $n=7$ (10.29%) and extremely preterm - $n=2$ (2.94%) delivery rates ($P < 0.001$). The same tendency was revealed as in patients after IVF and pessary insertion, so in patients without pessary ($P < 0.001$). However, a statistically significant difference was not found when comparing rates between groups ($P > 0.05$).

Conclusion: The use of pessary in multifetal pregnancies must be regarded as supportive therapy as it may prolong the pregnancy, however, it does not prevent the preterm delivery.

Key words. Preterm birth, cervical insufficiency, multifetal pregnancy, vaginal pessary.

Introduction.

Preterm birth (PTB), defined as birth before 37 completed weeks of gestation (up to 36 weeks and 6 days), is one of the most significant causes of perinatal morbidity and mortality [1]. Premature birth contributes to the growing number of intergenerational non-communicable diseases. According to WHO data, there are 15 million premature births every year. Spontaneous premature birth accounts for 65-70% of all premature deliveries [2], iatrogenic preterm birth for 30-35% [3], one of ten newborns die from premature birth. Approximately 900,000 newborns die from prematurity every year. Complications of premature birth are cerebral palsy, lung disease, blindness and deafness. Premature births are divided into: Late preterm, born between 34 and 36 weeks of pregnancy;

Moderately preterm, born between 32 and 33 weeks and 6 days of pregnancy; Very preterm - between 28 and 31 and 6 days of pregnancy; Extremely preterm – between 22 and 27 weeks and 6 days of pregnancy [4].

In 13 countries, the average annual rate of preterm birth reduction decreased by 0.5% or more between 2010 and 2020. Unfortunately, the yearly rate of premature births is increasing in most countries. Georgia belongs to the same number of them. Preterm birth was significantly more prevalent in twin pregnancies than in singleton pregnancies in all categories - 54.7% vs 6.1%, respectively, including extremely preterm - 3.6% vs 0.4%, very preterm - 18.2% vs 1.4% and late preterm - 33.0% vs 4.3% [5].

In 2020, the region with the highest preterm birth rate was Southern Asia, with a prevalence of 13.2% (the highest being in Bangladesh at 16.2%, followed by Malawi at 14.5%), compared to fewer than 8% of preterm births in the regions of Eastern Asia, Southeastern Asia, and Oceania (excluding Australia and New Zealand). 20% of all preterm births worldwide, followed by Pakistan, Nigeria, China, Ethiopia, Bangladesh, and the Democratic Republic of the Congo. The high numbers of preterm births in these countries and areas are, in part, a reflection of their large population sizes, high numbers of total births, and weaker health systems that are unable to deliver high-quality family planning, antenatal care, and childbirth services to all individuals who need them. With a preterm birth prevalence of 10% or higher persisting in some high-income countries and areas, including Greece (11.6%) and the USA (10.0%), targeted efforts are needed to identify the most affected groups and determine and implement the most effective strategies to reduce preterm birth in those populations [6].

Against the backdrop of a progressively declining birth rate in Georgia, the problem of premature birth is very urgent. However, a decreasing number of births was noted in 2019-2023, from 48296 to 40214. Unfortunately, there is a tendency towards an increase in the number of premature births in Georgia in recent years, from 7% to 10.39%. Premature birth is the main cause of death (51%) and morbidity in Georgia [7].

Timely detection of the risk of premature birth, along with adequate assessment and monitoring of pregnant women at risk, as well as proper management of preterm birth prevention, is an important contributor to improving the outcomes of its prevention.

The causes of premature birth may be: Infection or inflammation, ischemia or bleeding in the uteroplacental unit,

uterine overdistension, stress, and other immunologically generated processes are a few causes of preterm labor. Since a precise mechanism is usually impossible to identify, explanations for premature labor have instead searched for factors connected to preterm delivery but not necessarily in the causation pathway [8].

The previous and ongoing obstetric history of the patient (the complicated labor, multifetal pregnancy in the past, the gestational age of pregnancy available at the time of diagnosis, the frequency of uterine contractions, any bloody or liquid vaginal discharge, associated with a violation of the integrity of the amniotic sac) should be taken into account. The presence of systemic diseases and the presence of the last episode of sexual intercourse are important for diagnosing preterm birth.

A short cervix, as assessed by transvaginal ultrasound, is an established risk factor for preterm birth [9]. The length of the cervix using transvaginal ultrasound is one of the effective methods for diagnosing the risk of preterm birth.

Despite the relevance of the problem of premature birth, there are not many ways to solve this problem, and according to Robert M. Califf: "It is tragic that scientific research and the medical community have not yet found an effective treatment shown to be effective in preventing preterm birth and improving neonatal outcomes".

The increase in the number of multifetal pregnancies in the world is associated with the development of ART [10,11]. Multifetal pregnancies account for ~1% of all pregnancies but are seen in much higher numbers in populations where in vitro fertilization (IVF) is a common practice [10]. According to various authors, from 57% to 68% of premature births are possible in multiple pregnancies [12,13].

The rate of caesarean deliveries is much higher in women with multifetal pregnancies compared to those with a singleton pregnancy. The incidences of anemia, preterm labor, gestational diabetes mellitus, hypertensive disorders and post-partum hemorrhage significantly increased with multifetal pregnancy. In addition, multifetal pregnancy is associated with a significantly higher rate of small-for-gestational-age infants, low birth weight and neonatal intensive care unit admission [14].

Considering the serious consequences of premature birth in social, physical, and economic aspects, the goal is to prolong pregnancy as much as possible until a physiological, full-term birth. Several drugs can delay preterm labor. 2022 Cochrane network meta-analysis on tocolytics found all subclasses (betamimetics, COX inhibitors, calcium channel blockers, magnesium sulfate, oxytocin receptor antagonists, nitric oxide donors), which are probably effective at delaying preterm birth [14]. According to a systematic review, the cervical pessary has shown potential effectiveness in the prevention of PB [15].

Given the limited options available for prolonging pregnancy in the case of threatened preterm birth, all possible effective measures should be utilized in our practice.

Considering all these circumstances, our study's aim became the assessment of the efficacy of pessary in PB prevention in patients with multifetal pregnancies.

Materials and Methods.

The retrospective cohort study was conducted in the Perinatal Department of Gudushauri National Medical Center from 2020

to 2024 and was approved by the local ethical committee. Informed Consent was obtained from the patients. The study included 226 women. The inclusion criteria were women with multifetal pregnancies conceived as in natural cycle, so after IVF, gestational age – 14-24 weeks, the threat of premature birth, which was diagnosed due to shortening of the cervix during ultrasound examination; The exclusion criteria were the use of a cerclage on the cervix together with or without a pessary, presence of confirmed rupture of amniotic fluid, allergy or intolerance to pessary material, insertion of pessary after 24 weeks of gestation, iatrogenic preterm labor. The patients were divided into three groups: group I – 68 patients who conceived naturally and a pessary was used to prevent the preterm delivery; group II – 84 pregnant women after IVF, and the treatment of premature birth was also provided using a pessary; and group III - 74 women with threatened preterm delivery (54 women conceived naturally and 20 pregnant women after IVF) in whom a pessary was not used for the prevention. The assessment of the effectiveness of the pessary were: the outcome of the pregnancy, the rate of prolongation of the pregnancy. Statistical analysis was performed using the descriptive analysis, One-Way ANOVA and the Crosstabulation test of the SPSS software package, version 26.0 for Windows. The difference was statistically significant if $P < 0.05$.

Results.

The mean age of patients in group I (28.69 ± 5.18) was statistically significantly different compared to group III (31.95 ± 7.40) ($P = 0.01$) and there was no statistically significant difference in patients' mean age between groups I and II (30.62 ± 6.97 , respectively) ($P = 0.178$) and groups II and III as well ($P = 0.423$). The mean length of the cervix for all groups was 21.21 ± 3.17 , and it was not statistically significantly different when comparing between groups (group I – 21.09 ± 3.22 ; group II – 21.29 ± 3.1 ; group III – 21.23 ± 3.26), $P > 0.05$. The mean gestational age of the pregnancy at the moment of the pessary insertion was 19.49 ± 3.23 . In group I, the frequency of late preterm delivery - $n=35$ (51.47%) was statistically significantly higher compared to moderate - $n=24$ (35.29%), very preterm $n=7$ (10.29%) and extremely preterm $n=2$ (2.94%) delivery rates ($P < 0.001$). The same tendency was revealed in patients after IVF and pessary insertion - late preterm delivery – $n=45$ (53.57%) was statistically significantly higher compared to moderate – $n=26$ (30.95%), very preterm – $n=9$ (10.71%) and extremely preterm – $n=4$ (4.76%) delivery rates ($P < 0.001$), also in group III late preterm delivery – $n=34$ (45.95%) was statistically significantly higher than the moderate PB – $n=23$ (31.08%), very preterm – $n=13$ (17.57%) and extremely preterm – $n=4$ (5.41%) delivery rates ($P < 0.001$). However, a statistically significant difference was not found when comparing preterm birth rates between groups ($P > 0.05$) (Table 1). But the most interesting was the fact which we have revealed according to our results. Comparing the gestational age between groups, we found out that the frequency of deliveries at 36 weeks of pregnancy was statistically significantly higher in the pessary groups compared to group without pessary, $P < 0.001$ (group I – 74.3% vs. group III – 8.8%; and group II – 51.1% vs. group III – 8.8%). In group I the rate of stillbirth was statistically significantly lower than

the rate of livebirth (8.82% vs. 91.18, respectively), $P < 0.001$; Similarly, the rate of livebirth was statistically significantly higher compared to stillbirth rate in groups II and III (group II - 91.9% vs. 8.3% and group III - 93.2% vs. 6.8%), $P < 0.001$. In our study, the prevalence of Cesarean Section, in total, was statistically significantly higher compared to vaginal delivery rate (91.15% vs. 8.85%), $P < 0.001$. The highest rate of Cesarean Section was found in the patients after IVF with pessary, however, there was no statistically significant difference in the surgery delivery rate while comparing between groups ($P = 0.280$). The cervical pessary was not associated with any harmful effects but was associated with a higher rate of vaginal discharge, however its rate ($n=83$) was statistically significantly lower compared to the number of patients without discharge (36.7% vs. 63.3%, respectively) $P < 0.001$.

Table 1. Comparison of the preterm birth rates between the study groups. There are no statistically significant differences between groups ($P > 0.05$).

Preterm Birth	Group I n (%)	Group II n (%)	Group III n (%)
Late	35 (51.47)	45 (53.57)	34 (45.95)
Moderate	24 (35.29)	26 (30.95)	23 (31.08)
Very	7 (10.29)	9 (10.71)	13 (17.57)
Extremely	2 (2.94)	4 (4.76)	4 (5.41)

Discussion.

Preterm birth refers to a delivery before the completion of 37 weeks of gestation. In 2020, an estimated 13.4 million babies were born preterm [16] and across countries, the rate of preterm birth ranges from 4–16% of babies. According to CDC data, the preterm birth rate declined by 1% from 2021 to 2022, while it was decreased by 10.4 % from 2020 to 2021. However, racial and ethnic differences in preterm birth rates remain. In 2022, preterm birth among Black women (14.6%) was about 50% higher than White (9.4%) or Hispanic women (10.1%) [17].

Preterm labour is now thought to be a syndrome initiated by multiple mechanisms, including infection or inflammation, uteroplacental ischemia or hemorrhage, uterine overdistension, stress, and other immunologically mediated processes [18]. Among those factors, the essentials are expecting multiples, as approximately 60% of twins and triplets are born prematurely, and problems with the uterus or cervix. However, often, no cause is identified. There could also be a genetic influence [19].

The most serious are the consequences of the PB: intraventricular hemorrhage remains a significant problem, especially if associated with post-hemorrhagic hydrocephalus, leading to long-term neurological impairment and decreased survival. Necrotizing enterocolitis (NEC) is more common in premature than in term newborns and is the most frequent cause of short bowel syndrome in infancy. Retinopathy of prematurity (ROP) remains a frequent cause of neurosensory impairment for extremely premature newborns. Many extremely premature newborns still develop bronchopulmonary dysplasia [20]. Preterm birth complications are the leading cause of death among children under 5 years of age, responsible for approximately 900,000 deaths in 2019 [21]. Hence, preventing PB is crucial to avoiding complications.

Considering that the insufficiency of the cervix is the often cause of PB, treating this issue remains important, and as it was mentioned above, the majority of multifetal pregnancies are characterized by preterm birth. Due to these reasons, we decided to assess the efficacy of pessary in Preterm Birth (PB) prevention in patients with multifetal pregnancies.

Vaginal pessaries have been used to prevent preterm birth since 1959 [22]. The cervical pessary is a relatively non-invasive, not operator-dependent intervention, which can be easily placed or removed in an outpatient clinic and does not require anesthesia. According to Liem S. et al., available randomized and nonrandomized studies indicate the potential effectiveness of a cervical pessary in the prevention of preterm birth [23].

Similarly, in our study, the results have shown that the pessary may support the pregnancy prolongation, as we have revealed that the frequency of late gestational age - 34 weeks- is statistically significantly higher in a group without pessary compared to groups with pessary. Thus, we may consider that the rate of extremely and very late preterm birth may be reduced during pregnancy while using vaginal pessaries. However, in one study, pessary showed inconsistent benefit.

The findings from our study align with those of Jin Z. et al., indicating that a pessary could prolong pregnancy and reduce the rate of tocolysis and corticosteroids [24].

As it was shown in one meta-analysis, Progesterone was the best intervention for preventing PB in singleton pregnancies [25]. Although our study did not aim to assess the effectiveness of combined therapy with pessary and hormonal treatment, it must be mentioned that all patients in our study were prescribed the hormonal treatment for PB prevention.

According to an updated systematic review and meta-analysis by Xiong Y. et al., cervical pessary, compared with expectant treatment, seemed to have no effectiveness in preventing PB <34 weeks among both singleton and twin pregnancies. However, cervical pessary seemed to have the effectiveness of reducing the risk of spontaneous PB before 28 weeks of gestation. In addition, cervical pessary increased the rate of vaginal discharge [26].

These findings match our results, as in our study, the use of pessary decreased the prevalence of the very preterm and extremely preterm birth, however, it did not increase the rate of timely delivery. In addition, according to our data, the cervical pessary was associated with a higher rate of vaginal discharge.

Our findings are different from the one study's results, where fetal or neonatal/infant death occurred in 13.3% [9], while the stillbirth rate in our research was 8%. However, the association between pessary and antenatal or neonatal death remains uncertain.

Regardless of the non-invasiveness of the pessary insertion, the complications related to the insertion procedure and the outcomes are crucial. Naeiji Z. et al., have revealed that the use of cervical pessary after successful control of a threatened preterm labor episode in women with short cervix can postpone the labor significantly, leading to increased gestational age (till timely birth) and improved neonatal outcome [27].

These data are different from our findings. Although in our study the cervical pessary was not associated with any harmful effects, but we did not find improved neonatal outcomes or the

increased term delivery rate. Nevertheless, according to one case report, cervical pessaries can cause quite a serious complication – rupture of the cervix during pregnancy [28].

However, according to several studies, the pessary is quite easy to insert and remove and is well tolerated by the women [29,30] and is not associated with adverse outcomes.

Our results are similar, as we did not find difficulties during the pessary insertion and increased complications related to the procedure.

Due to fact that at this time, there is inconclusive evidence that cervical pessary use decreases the rate of preterm birth or improves maternal or fetal outcomes for women at high risk for PB, the Society for Maternal-Fetal Medicine recommends that placement of cervical pessary, during pregnancy in aim to decrease PB, can be used only in the context of a clinical trial or research protocol [31].

Insertion of pessary for preventing preterm birth may increase the rate of deliveries till 36 weeks of gestation, albeit, it does not change extremely and very preterm births rates comparing them in patients with and without pessaries, as we did not find statistically significant difference between those values. Nonetheless, our study has limitations, as all included patients were prescribed the hormonal therapy, which maintains the progression of pregnancy and thus may have an impact on our results. However, data are controversial, and more large-scale studies must be continued in this connection.

Conclusion.

The use of pessary in multifetal pregnancies must be regarded as supportive therapy as it may prolong the pregnancy till 36 weeks of gestation, however, it does not prevent the preterm delivery.

REFERENCES

1. Grobman W.A, Norman J, Jacobsson B, et al. FIGO good practice recommendations on the use of pessary for reducing the frequency and improving outcomes of preterm birth. *International Journal of Gynecology & Obstetrics*. 2021;155:23-25.
2. Abdel-Aleem H, Shaaban OM, Abdel-Aleem MA, et al. Cervical pessary for preventing preterm birth in singleton pregnancies. *Cochrane Database of Systematic Reviews*. 2022;12.
3. Valencia C.M, W. Mol B, Jacobsson B. FIGO good practice recommendations on modifiable causes of iatrogenic preterm birth. *International Journal of Gynecology & Obstetrics*. 2021;155:8-12.
4. Quinn J.-A, M. Munoz F, Gonik B, et al. Preterm birth: Case definition & guidelines for data collection, analysis, and presentation of immunisation safety data. *Vaccine*. 2016;34:6047-6056.
5. Tingleff T, Räisänen S, Vikanes Å, et al. Different pathways for preterm birth between singleton and twin pregnancies: a population-based registry study of 481 176 nulliparous women. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2023;130:387-395.
6. Ohuma E.O, Moller A-B, Bradley E, et al. National, regional, and global estimates of preterm birth in 2020, with trends from 2010: a systematic analysis. *The Lancet*. 2023;402:1261-1271.
7. Manjavidze T, Rylander C, Skjeldestad FE, et al. Incidence and Causes of Perinatal Mortality in Georgia. *Journal of Epidemiology and Global Health*. 2019;9:163-168.
8. Khandre V, Potdar J, Keerti A. Preterm Birth: An Overview. *Cureus*. 2022;14:e33006.
9. Hoffman M.K, Clifton RG, Biggio JR, et al. Cervical Pessary for Prevention of Preterm Birth in Individuals With a Short Cervix. *JAMA*. 2023;330:340-348.
10. Murray S.R, Norman J.E. Multiple pregnancies following assisted reproductive technologies – A happy consequence or double trouble? *Seminars in Fetal and Neonatal Medicine*. 2014;19:222-227.
11. Practice Committee of the Society for Reproductive Endocrinology and Infertility, Q.A.C. of the S. for A.R.T. and the P.C. of the A.S. for R. Medicine. Multiple gestation associated with infertility therapy: a committee opinion. *Fertility and sterility*. 2022;117:498-511.
12. Martin J.A, Hamilton BE, Sutton PD, et al. Births: final data for 2007. *National vital statistics reports : from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System*. 2010;58:1-85.
13. Seetho S, Kongwattanakul K, Saksiriwuttho P, et al. Epidemiology and factors associated with preterm births in multiple pregnancy: a retrospective cohort study. *BMC pregnancy and childbirth*. 2023;23:872.
14. Su R, Zhu W-W, Wei Y-M, et al. Maternal and neonatal outcomes in multiple pregnancy: A multicentre study in the Beijing population. *Chronic Diseases and Translational Medicine*. 2015;1:197-202.
15. Liem S.M.S, Pampus MGv, Mol BWJ, et al. Cervical Pessaries for the Prevention of Preterm Birth: A Systematic Review. *Obstetrics and Gynecology International*. 2013:1-10.
16. Ohuma E.O, Moller A-B, Bradley E, et al. National, regional, and global estimates of preterm birth in 2020, with trends from 2010: a systematic analysis. *The Lancet*. 2023;402:1261-1271.
17. Centers of Disease Control and Prevention (CDC). Preterm Birth: 2024.
18. Romero R, Espinoza J, Kusanovic JP, et al. The preterm parturition syndrome. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2006;113:17-42.
19. World Health Organization (WHO). Preterm Birth: 2023.
20. Ward R.M, Beachy J.C. Neonatal complications following preterm birth. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2003;110:8-16.
21. Perin J, Mulick A, Yeung D, et al. Global, regional, and national causes of under-5 mortality in 2000–19: an updated systematic analysis with implications for the Sustainable Development Goals. *The Lancet Child & Adolescent Health*. 2022;6:106-115.
22. Vitsky M. Simple treatment of the incompetent cervical os. *American Journal of Obstetrics and Gynecology*. 1961;81:1194-1197.
23. Liem S.M.S, Pampus MGv, Mol BWJ, et al. Cervical Pessaries for the Prevention of Preterm Birth: A Systematic Review. *Obstetrics and Gynecology International*. 2013:1-10.
24. Jin Z, Chen L, Qiao D, et al. Cervical pessary for preventing preterm birth: a meta-analysis. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2019;32:1148-1154.

25. Jarde A, Lutsiv O, Park CK, et al. Effectiveness of progesterone, cerclage and pessary for preventing preterm birth in singleton pregnancies: a systematic review and network meta-analysis. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2017;124:1176-1189.
26. Xiong Y.-Q, Tan J, Liu Y.-M, et al. Cervical pessary for preventing preterm birth in singletons and twin pregnancies: an update systematic review and meta-analysis. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2022;35:100-109.
27. Naeiji Z, Heydari S, Bahaar M, et al. Efficacy and Safety of Cervical Pessary in Decreasing the Preterm Labor in Symptomatic Pregnant Women: A Randomized Clinical Trial. *Journal of Obstetrics, Gynecology and Cancer Research*. 2021;6:195-201.
28. Kalinka J, Jasinska EA, Laudanski P, et al. Rupture of the cervix during pregnancy after cervical pessary insertion for preventing preterm birth. *Journal of Obstetrics and Gynaecology Research*. 2016;42:1854-1857.
29. Ivandic J, Care A, Goodfellow L, et al. Cervical pessary for short cervix in high-risk pregnant women: 5 years experience in a single centre. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2020;33:1370-1376.
30. Seravalli V, Strambi N, D'Arienzo A, et al. Patient's experience with the Arabin cervical pessary during pregnancy: A questionnaire survey. *PLoS One*. 2022;17:e0261830.
31. Society for Maternal-Fetal Medicine (SMFM) Publications Committee. The role of cervical pessary placement to prevent preterm birth in clinical practice. *American Journal of Obstetrics and Gynecology*. 2017;216:B8-B10.

Абстракт

Цель исследования: определить эффективность пессарий в профилактике преждевременных родов у пациенток с многоплодной беременностью.

Материалы и методы: ретроспективное когортное исследование проводилось в Перинатальном отделении Национального Медицинского Центра им. акад. Гудушаури с 2020 по 2024 год и включало 226 женщин исключительно с многоплодной беременностью и с угрозой преждевременных родов. Пациентки были распределены в трех группах: группа I – 68 женщин забеременевших в натуральном цикле у которых был использован акушерский пессарий для профилактики преждевременных родов; группа II – 84 женщины забеременевших в следствии применения вспомогательных репродуктивных технологий (ВРТ) и для предотвращения угрозы преждевременных родов также был применен пессарий; и группа III – 74 беременных с угрозой преждевременных родов, у которых не применялся пессарий. Во всех случаях пессарии были использованы в сроке 14-24 недели беременности. Разница была статистически значима если $P < 0.05$.

Результаты: в группе I частота поздних преждевременных родов - $n=35$ (51.47%) была статистически значимо выше по сравнению с умеренно - $n=24$ (35.29%), глубоко - $n=7$

(10.29%), экстремально - $n=2$ (2.94%) преждевременных родов ($P < 0.001$). Аналогичная тенденция была сохранена у пациенток после ВРТ с пессарий и женщин без акушерских пессарий ($P < 0.001$). Однако, статистическая значимая разница не выявилась в показателях преждевременных родов при сравнении их между группами ($P > 0.05$).

Заключение: применение пессарий у женщин с многоплодной беременностью может быть рассмотрено в качестве вспомогательной терапии так как пессарий способствует пролонгированию беременности, хотя не предотвращает преждевременные роды. **Ключевые слова:** Преждевременные роды, недостаточность шейки матки, многоплодная беременность, вагинальный пессарий.

აბსტრაქტი

კვლევის მიზანი: ვაგინალური სამეანო პესარიის ეფექტიანობის შეფასება ნაადრევი მშობიარობის პრევენციაში მრავალნაყოფიანი ორსულობის დროს.

მასალები და მეთოდები: რეტროსპექტიული, კოჰორტული კვლევა ჩატარდა ღუდუშაურის სახელობის ეროვნული სამედიცინო ცენტრის პერინატალური განყოფილების ბაზაზე 2020-2024 წწ. კვლევაში ჩართული იყო 226 ქალი მხოლოდ მრავალნაყოფიანი ორსულობით და მოსალოდნელი ნაადრევი მშობიარობის საშიშროებით. პაციენტები დაიყო სამ ჯგუფად: ჯგუფი I – 68 ქალი, რომელთა ორსულობა დადგა ფიზიოლოგიური გზით და ნაადრევი მშობიარობის პრევენციის მიზნით გამოყენებულ იქნა სამეანო პესარია; ჯგუფი II – 84 ორსული ინ ვიტრო განაყოფიერების შემდეგ, რომელთაანაც ასევე გამოყენებულ იყო სამეანო პესარია ნაადრევი მშობიარობის პრევენციის მიზნით; და ჯგუფი III – 74 ორსული პესარიის გარეშე. ყველა შემთხვევაში პესარია ჩაიდგა ორსულობის 14-24 კვირის ვადაზე. სხვაობა განხილულ იქნა სტატისტიკურად სარწმუნოდ თუ $P < 0.05$.

შედეგები: პირველ ჯგუფში გვიანი ნაადრევი მშობიარობის სიხშირე - $n=35$ (51.47%) სტატისტიკურად სარწმუნოდ მაღალი იყო ზომიერ - $n=24$ (35.29%), ადრეულ - $n=7$ (10.29%) და ძალიან ადრეულ - $n=2$ (2.94%) მშობიარობათა სიხშირესთან შედარებით ($P < 0.001$). იგივე ტენდენცია აღინიშნა პაციენტებში ინ ვიტრო განაყოფიერების შემდეგ, რომელთა შემთხვევაში გამოყენებული იყო პესარია და ასევე ორსულებში პესარიის გარეშე ($P < 0.001$). თუმცა, სტატისტიკურად სარწმუნო სხვაობა არ გამოვლინდა მაჩვენებლების შედარებისას ჯგუფებს შორის ($P > 0.05$).

დასკვნა: მრავალნაყოფიანი ორსულობის დროს სამეანო პესარიის გამოყენება შესაძლოა განხილულ იქნეს როგორც დამხმარე თერაპია, ვინაიდან ის ახანგრძლივებს ორსულობას, თუმცა არ ახდენს ნაადრევი მშობიარობის პრევენციას.

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