

DOI: <https://doi.org/10.17816/JOWD643209>

От классического акушерства до современных отраслевых технологий

Э.К. Айламазян

Научно-исследовательский институт акушерства, гинекологии и репродуктологии им. Д.О. Отта, Санкт-Петербург, Россия

АННОТАЦИЯ

В статье представлен детальный анализ исторического развития классического акушерства в XIX в. в Европе и России. Само понятие «классический» возникло в начале XIX в. в Европе и стало основой для становления классического акушерства. В этот период в Западной Европе основоположником классического акушерства стал Эрнест Бумм. В России в это же время признанным лидером и основателем научного классического акушерства стал Эдуард-Антон Яковлевич Крассовский. Он основал первое в России Общество акушеров-гинекологов в Санкт-Петербурге в 1886 г. и первый в России журнал для таких специалистов — «Журнал акушерства и женских болезней» в 1887 г. В статье рассмотрены ключевые проблемы современного акушерства, особенно в контексте высокой частоты оперативного родоразрешения. Автор подчеркивает, что беременность и роды представляют собой физиологические процессы, прошедшие эволюцию и адаптированные к потребностям человеческой популяции. В связи с этим автор призывает к естественному и качественному родоразрешению. Кроме того, он предлагает перенять практику, принятую в большинстве стран мира, и установить сроки обязательной реанимации новорожденных на 24–25-й неделе беременности. Это позволит решить ряд морально-этических, экономических, социальных и юридических вопросов. В статье также подчеркнута необходимость корректности научных исследований, исключаяющей риски для пациентов. Дана критическая оценка некоторых методов лечения акушерских кровотечений.

Ключевые слова: история акушерства; маточные кровотечения; кесарево сечение; репродуктивные технологии.

Как цитировать

Айламазян Э.К. От классического акушерства до современных отраслевых технологий // Журнал акушерства и женских болезней. 2025. Т. 74. № 1. С. 7–13. DOI: <https://doi.org/10.17816/JOWD643209>

DOI: <https://doi.org/10.17816/JOWD643209>

From classical obstetrics to modern industrial technologies

Eduard K. Ailamazyan

The Research Institute of Obstetrics, Gynecology and Reproductology named after D.O. Ott, Saint Petersburg, Russia

ABSTRACT

This article provides a comprehensive historical overview of the development of classical obstetrics in Europe and Russia during the 19th century. The concept of *classical* originated in Europe in the early 19th century and became fundamental to the development of classical obstetrics. At that time, Ernst Bumm was the father of classical obstetrics in Western Europe, while in Russia, Eduard-Anton Y. Krassovsky became the leader and founder of scientific classical obstetrics. Krassovsky founded the first Russian Society of Obstetricians and Gynecologists in St. Petersburg (1886) and the Journal of Obstetrics and Women's Diseases (1887). The article explores key problems currently faced by obstetrics, highlighting the high prevalence of surgical deliveries. The author emphasizes that pregnancy and childbirth are natural physiological processes that have evolved over centuries to meet the needs of human survival. Therefore, he advocates for promoting natural and high-quality childbirth. He also calls for aligning with global practices by implementing mandatory newborn resuscitation at weeks 24–25 of gestation, which would address various moral, ethical, economic, social, and legal concerns. Furthermore, the article underscores the importance of conducting scientific research with precision to eliminate risks for patients and provides a critical evaluation of certain treatment approaches for postpartum hemorrhage.

Keywords: history of obstetrics; uterine bleeding; cesarean section; reproductive technology.

To cite this article

Ailamazyan EK. From classical obstetrics to modern industrial technologies. *Journal of Obstetrics and Women's Diseases*. 2025;74(1):7–13.

DOI: <https://doi.org/10.17816/JOWD643209>

Received: 19.12.2024

Accepted: 19.12.2024

Published online: 20.02.2025

In the world bellowing:
Glory to the coming!
What whispers in me:
Glory to the gone be!
Marina Tsvetaeva

The decision to publish this article was inspired by the lively response from my peers to my recent speaking on women's, children's, and population health in Russia. The concerns raised in the above speeches have obviously been occupying our obstetrics and gynecology community for a long time, and apparently their spoken presentation alone is not quite enough. The article was also motivated by the opinions of some colleagues who had a different understanding of the problems under discussion, but considered it important to keep them on the current deliberations.

At the recent conference "From Classical Obstetrics and Gynecology to Modern Perinatal and Reproductive Technologies" held at the Altai State Medical University, I was delighted to see how strongly the recognition of classical achievements in medicine as the basis for the development of modern obstetrics conveyed in the Altai Territory, far from Moscow and St. Petersburg. Why have I decided to discuss this? It has been over three decades since classical obstetrics has been mentioned at any conference in Russia. Naturally, this was the result of the intervention of Western missionaries, who largely destroyed our science and education in the 1990s, which eventually paved the way for the closure of the Russian Academy of Medical Sciences, the adoption of the Bologna system and the Unified State Examination, the replacement of the national classifications, etc. Westernism has become deeply entrenched, adapting our mentality to prioritize Western values. Concurrently, a number of Russian obstetric specialists declared that the age of classical obstetrics, with its violence inherited from the late Middle Ages, had ended with the arrival of perinatal obstetrics. This assertion is completely misleading because classical obstetrics has always rejected violence during childbirth. Furthermore, the historical period of midwifery preceding the 19th century has not been defined as classical [1].

The concept of *classical* originated in Europe in the early 19th century, marking the development of classical obstetrics. It is important to distinguish between classical obstetrics and medieval midwifery.

Ernst Bumm is widely acknowledged as the father of classical obstetrics in Western Europe. In Russia, Eduard-Anton Y. Krassovsky became the leader and founder of scientific classical obstetrics in the same period. Significant to his legacy was the foundation of the first Russian Society of Obstetricians and Gynecologists in St. Petersburg (1886) and the Journal of Obstetrics and Women's Diseases (1887). By the end of the 19th century, Russia, with France, the home of obstetrics, and Germany, constituted the top

three obstetrical centers, in no way outranking any of them. It is noteworthy that the concepts of *classicism* and *classical* implied a focus on the Renaissance, not only in the sciences, but also in the arts.

Vesalius's (1514–1569) human anatomy, Harvey's (1578–1657) discovery of two circles of blood circulation, the invention of stethoscope and Leeuwenhoek's microscope, van Deventer's pelvic theory, biomechanics of childbirth, Semmelweis's and Lister's antiseptics, Simpson's and Pirogov's anesthesia, Landsteiner's classification of blood groups, discovery of antibiotics and sulfonamides, and many other advances laid the cornerstone for the development of fundamental, scientific, and essentially classical obstetrics. This is likewise true for cesarean section (CS) surgery, which has also evolved from the so-called classical CS to lower-segment CS. This is evidence that obstetrics is an excellency based on scientific achievements [1].

The discovery of the *dominant principle* by academician Aleksey A. Ukhtomskiy is of particular significance in this context [2]. Professor Ivan I. Yakovlev further extended this concept to obstetrics, which resulted in a deeper understanding of such phenomena as dominant pregnancy and dominant childbirth. These phenomena are associated with the biological preparation of a woman's body and the soft part of her birth canal for childbirth. Wouldn't we say that this is classical obstetrics, which largely determines the physician's strategy during labor and delivery? It is crucial in this context to acknowledge that the fundamental principles and approaches of classical obstetrics are based on the concept that pregnancy and childbirth are physiological processes that have evolved over centuries and have adapted to the basic vital needs of the population.

In their efforts to meticulously safeguard the physiological processes of parturient women, distinguished practitioners of midwifery care have consistently adhered to the principle of classical obstetrics: "to help, or at least to do no harm." The argument of some obstetricians that classical obstetrics has become outdated with the advent of perinatal obstetrics and the increasing prevalence of CS rates is completely ill-founded. This viewpoint may be detrimental, as it is associated with the inability to curtail the epidemic-like growth of CS rates in Russia (25%), where one CS operation for every four births (and one for every three in the big cities) is perceived as normal. The underlying causes of this phenomenon are widely recognized, with one salient factor being the decline in professional standards. Should the upward trend in CS rates persist, it will precipitate an evolution in the way childbirth is performed, from natural to cesarean delivery. The attempt

to justify the increase in CS rates by reducing perinatal mortality is inconclusive and may have been relevant, but only in the past. Contemporary evidence indicates that the primary factors contributing to the decline in perinatal mortality are the advent of new, highly effective institutional and diagnostic technologies, the launch of perinatal centers, the provision of maternity wards with the latest equipment, the increased use of prenatal diagnostics, the treatment of extragenital diseases, etc.

It is hard to agree with those who advocate CS and believe that classical obstetrics is based on the recognition of the unconditional priority of the mother's interests over those of the fetus. This idea, often attributed to romantic writers, has a long history, although it hardly represents the real situation. As early as the 1920s, after the Great October Revolution, the first obstetrical and gynecological conferences initiated by Nikolay A. Semashko, the first People's Commissar of Soviet Public Health were held with the title "A Healthy Child for a Mother, and a Healthy Mother for a Child." It is significant to mention that the fetal well-being was never disregarded and it was not the prevailing attitudes that considered the fetus as something expendable. The high incidence of perinatal and infant mortality was largely attributable to the limited resources and expertise available in obstetrics, pediatrics, and general medicine during that period.

It is not one single CS surgery that can solve all the problems of obstetrics like a sword cutting a Gordian knot. The myth of CS safety has long been dispelled. It must be acknowledged that the incidence of CS-related complications is 25-fold higher than that of natural childbirth.

It is impossible to ignore recent studies that have demonstrated that during CS surgery, i.e. when the child does not come into contact with the mother's vaginal and intestinal flora, the child receives hospital infection strains and experiences a lack of bacteria from the mother's vaginal and intestinal microbiome, which reduces the strength of immune protection and increases the risk of a variety of diseases, including infections and inflammatory diseases.

Individuals aspiring to establish a career in obstetrics must acknowledge the reality that without scientific, fundamental, and therefore classical obstetrics, they will not be able to reach the apices of professional excellence. It is also crucial to be aware of the fact that the concept of *classical* is strongly associated in the public minds with the concepts of *eternal* and *inviolable*.

Following the shift in obstetric practice to a perinatal model, which acknowledged the fetus as a patient alongside the mother, there was a notable increase in the prevalence of CS surgery. This increase exceeded the reasonable, standard guidelines. Concurrently, the fetus has come to be regarded as a patient in the context of transpersonal psychology [3].

Transpersonal psychology is a relatively new field of human sciences. It recognizes the existence of long-term prenatal fetal memory during pregnancy and birth and also considers the process of childbirth as a key in the formation of human mentality and consciousness. The prevailing views in this field are summarized by the American scientist Harris based on the idea that the feelings experienced by the fetus at the time of the birth trauma are recorded and stored by the brain in some form. These stored memories, similar to a dormant gene, are later released and contribute to the onset of various neuroses and psychosomatic diseases. Furthermore, Harris's theory suggests that the fetus' memory is imprinted with the feeling of fear of death when the mother seeks an abortion. The child will remember this event as an attempted murder, and in such cases, mothers later have difficulty in trusting contact with their child. Contemporary research has unveiled additional insights into the intricate details of fetal life.

The human mentality and consciousness are based on Grof matrices, stable functional structures that provide the foundation for many of a person's mental and physical reactions throughout his or her life. They are formed during pregnancy and childbirth: the first matrix, towards the end of pregnancy; the second matrix, with increased uterine contractions during the first stage of labor; the third matrix, during the second stage of labor; and the fourth matrix, at the time of childbirth. CS surgery excludes the second and third stages of labor and the development of the third and fourth matrices in the fetus, depriving the child of the experience of his or her own birth, the incentive and challenge to collide with an obstacle, and the possibility of a triumphant escape from a shrinking space. Perinatal psychologists believe that this reduces the newborn's stress tolerance and adaptability. Initial studies have demonstrated that children delivered by CS surgery have certain psychological features and often psychosomatic disorders requiring intervention by various medical professionals. The very incomplete list of problems associated with CS surgery demonstrates that medical community has to face a serious medical and social challenge. It is evident that the time has come to reconsider the place of CS surgery in modern obstetrics, and thus it is time to resume the discussion through scientific journals and conferences aimed at solving the accumulating problems. Anyway, it is time to adopt the paradigm of returning to natural, high-quality childbirth, because it is the quality of childbirth that is the lifetime resource for the person's well-being.

As is the case with surgery, obstetrics has often found itself at a crossroads and has followed various paths, including the wrong ones, thereby dragging along certain groups of obstetricians who had not yet gained a foothold in the profession. Erroneous decisions and a perverse commitment to a false path are still being followed today [4].

Specifically, the controlled cord traction during the postpartum period, a practice intended to prevent bleeding, contravenes Alfred's "hands off the uterus" inviolable pathogenetic principle.

Revising the time limits recommended by the World Health Organization for resuscitation of children with low and extremely low body weight at 22 weeks of gestation should not be ignored. It is noteworthy that nearly all countries worldwide, with the exception of three, including Russia, have changed the time limits for neonatal resuscitation to 24–25 weeks of gestation. In this regard, it is worth mentioning a quote from the 2023 World Congress of Gynecology and Obstetrics: "The risk of fatal outcomes after neonatal resuscitation in infants weighing 500 g is 75%–80%, and for the survivors, the risk of developmental disorders of the brain, endocrine and other systems is approximately 80%." In light of these findings, it seems reasonable to legally establish the requirement for full neonatal resuscitation from 24–25 weeks of gestation. However, observing the principles of biomedical ethics, obstetricians cannot and should not deprive >22 weeks' gestation newborns of the necessary palliative care (care, warmth, and nutrition). This approach will help a significant number of obstetricians and pediatricians resolve emerging ethical, economic, social, and legal issues.

The idea of "newborns at any cost" is a manifestation of pseudo-humanism that does nothing to improve the demographic situation. Conversely, it is associated with considerable financial and social burdens.

The suggested method of hypotonic hemorrhage control by "elastic" bandaging of the uterus, which has not received expert approval, but has been included in the clinical guidelines of the Russian Ministry of Health, is quite surprising. It is barely advisable to delay surgical hemostasis for 30 minutes (the minimum time of bandaging) in favor of bandaging in case of continuing bleeding. Furthermore, the degree of compression of the uterine tissues cannot be uniformly dosed with a bandage, which may lead to microcirculation disorders of the uterine tissues during hypoxia, which will not help to improve the organ health. It would be also interesting to know how to combine uterine bandaging with an intrauterine balloon (while seeking emergency aid as stated in the clinical guidelines of the Russian Ministry of Health), which is also unsuccessful in the case of hypotonic bleeding [5, 6].

It is hard to agree with the proposed method of controlling postpartum hemorrhage by placing a chitosan hemostatic dressing for external use into the uterine cavity after both natural childbirth and CS surgery. This approach fails to contribute to the primary objective of hypotension, which is to induce uterine contractions, however creates favorable conditions for ascending infection. The suggestion that the use of a hemostatic bandage for hypotonic bleeding leads to thrombosis throughout the placenta is unsupported,

speculative, and ignores the decrease in smooth muscle tone and excitability in hypotension, not only of the uterus, but also of the myometrial vessel walls, which are essential contributors to thrombosis. According to the International Federation of Obstetricians and Gynecologists (FIGO), this method has insufficient evidence of efficacy. The era of colpeuryesis, metreuryesis, applications, uterine balloon tamponade, and other anachronistic obstetrician procedures has passed into oblivion. The control of early postpartum hypotonic bleeding should be based not on a mechanistic approach, but on the assessment and stimulation of uterine tone and excitability, which govern its contractile activity, knowledge of the female genital blood circulation and blood coagulation system [5, 6].

Reports of hypotonic hemorrhage typically contain a small number of observations, whereas the conclusions are always positive. There is no doubt that without clinical trials in hospitals and research institutes, and at least short-term multicenter studies of their efficacy and safety, it is absolutely impossible to propose new methods of treatment to a wide range of practitioners. It is only in this way that the validity of a particular method can be established and it can be suggested for use in practice.

The suggestion not to remove the invaded part of the placenta and the uterus for *placenta accreta*, but to wait for the rejection of placental tissue within 2–3 months by administering methotrexate is controversial. The centuries-old scientific and practical experience of managing the postpartum period, based on the principle of complete removal of all retained products from the uterus, remains firmly in place. And this is not a dogma, but a paradigm. It is evident that a comprehensive discussion of the potential risks associated with inflammation and bleeding in the conservative management of the postoperative period in cases involving the retention of the placenta in the uterus is not feasible within the established paradigms of the postpartum period.

It is noteworthy that, as reported in the publications, almost the majority of very rare cases of placental retention in the uterus result in delayed hysterectomy with the onset of complications. The conservative management of *placenta accrete* (the most common practice) may be beneficial for intraoperative detection of placenta accrete when the obstetrician does not have experience with the method of uterine extirpation and the hospital does not have the available technologies for state-of-the-art treatment of profuse hemorrhage. In such extraordinary circumstances, it is imperative to initiate surgical intervention (e.g., metroplasty or uterine extirpation) expeditiously, however, without trying to separate the placenta immediately after CS surgery, whether through immediate external assistance or subsequent urgent transfer to a tertiary care facility [7, 8].

This is the time for scientific surgery and scientific obstetrics. The era of pure empiricism in medicine has

passed. It is therefore important not to rely on impressions based on unrepresentative data, but on research based on fundamental science and the findings obtained in clinical and laboratory settings by pathologists, physiologists, pharmacologists, and other medical professionals. It is always the case that any new suggestion raises a lot of assumptions and questions. Particularly when complex biological problems are solved mechanistically, it's not easy to have confidence in them. As these considerations are discussed, I must say that I am not one of the uncompromising opponents of clinical experiments. However, these high-risk experiments must be thoroughly justified by the indications for treatment and medical setting, with due regard for patient safety. It is noteworthy that a successful clinical experiment may often be associated with immediate and delayed unfavorable outcomes.

The motivation behind this essay is as follows. I am a medical practitioner and university lecturer with 60 years of experience, who has been involved in science and its establishment for many years. Recognizing that numerous obstetricians and gynecologists in this country will probably read this article, I once again appeal to the younger colleagues, our future, to remain committed to classical obstetrics, to be critical, to have their own dignity, and not to fall prey to the new fashion in obstetrics.

An obstetrician-gynecologist's role is more than just to watch over the health of the mother and her unborn child; it is also to remain a guardian and interpreter of the medical

science of the past, a critical observer of the present, and, of course, a dreamer of the future.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Вклад авторов. Э.К. Айламазян — разработка концепции, написание черновика рукописи, пересмотр и редактирование. Автор одобрил рукопись (версию для публикации), а также согласился нести ответственность за все аспекты работы, гарантируя надлежащее рассмотрение и решение вопросов, связанных с точностью и добросовестностью любой ее части.

Источники финансирования. Отсутствуют.

Раскрытие интересов. Автор заявляет об отсутствии отношений, деятельности и интересов за последние три года, связанных с третьими лицами (коммерческими и некоммерческими), интересы которых могут быть затронуты содержанием статьи.

ADDITIONAL INFORMATION

Author contributions. E.K. Ailamazyan, conceptualization, original draft preparation, review and editing. The author approved the manuscript (the version to be published) and agreed to be responsible for all aspects of the work, ensuring that issues related to the accuracy or integrity of any part of it are appropriately reviewed and resolved.

Funding sources. No funding.

Disclosure of interests. The author declares that he has no relationships, activities or interests for the last three years related with for-profit or not-for-profit third parties whose interests may be affected by the content of the article.

СПИСОК ЛИТЕРАТУРЫ

1. Айламазян Э.К. Акушерство и гинекология в статьях, выступлениях и лекциях. Санкт-Петербург: Левша, 2014. 488 с.
2. Ухтомский А.А. Доминанта: физиология поведения. Москва: АСТ, 2020. 320 с.
3. Гармашева Н.Л., Константинова Н.Н., Белич А.И. Психика и роды / под ред. Э.К. Айламазян. Санкт-Петербург: Яблочко СО, 1996. 120 с.
4. Федоров С.П. Хирургия на распутье. Москва: Наркомздрав, 1927. 32 с.
5. Михайлов А.В., Шман В.В., Новикова А.В., и др. Эластичная компрессия матки как новый метод остановки акушерских кровотечений при одно- и многоплодных родах // Российский вестник акушера-гинеколога. 2024. Т. 24, № 3. С. 82–91. EDN: HHPNDP doi: 10.17116/rosakush20242403182

6. Минздрав Российской Федерации. Послеродовое кровотечение. Клинические рекомендации. Москва, 2023. Режим доступа: <https://legalacts.ru/doc/klinicheskie-rekomendatsii-poslerodovoe-krovotечение-utv-minzdravom-rossii/?ysclid=m4l6r09dcv401461409>. Дата обращения: 12.12.2024.
7. Минздрав Российской Федерации. Патологическое прикрепление плаценты (предлежание и вращение плаценты). Клинические рекомендации. Москва, 2023. Режим доступа: <https://sudact.ru/law/klinicheskie-rekomendatsii-patologicheskoe-prikreplenie-platsenty-predlezhanie-i/klinicheskie-rekomendatsii/>. Дата обращения: 12.12.2024.
8. Курцер М.А., Бреслав И.Ю., Лукашина М.В. и др. Истинное вращение плаценты (placenta accreta). консервативная терапия // Акушерство и гинекология. 2011. № 4. С. 118–122. EDN: PFRYNP

REFERENCES

1. Ailamazyan EK. *Obstetrics and gynecology in articles, speeches and lectures*. Saint Petersburg: Levsha; 2014. 488 p. (In Russ.)
2. Ukhtomsky AA. *Dominant: physiology of behavior*. Moscow: AST; 2020. 320 p. (In Russ.)
3. Garmasheva NL, Konstantinova NN, Belich AI; Ailamazyan EK, editor. *Psyche and childbirth*. Saint Petersburg: Yablochko SO; 1996. 120 p. (In Russ.)

4. Fedorov SP. *Surgery at a crossroads*. Moscow: Narkomzdrav; 1927. 32 p. (In Russ.)
5. Mikhailov AV, Shman VV, Novikova AV, et al. Elastic uterine compression as a new method of cessation obstetric bleeding in single and multiple births. *Russian Bulletin of Obstetrician-Gynecologist*. 2024;24(3):82–91. (In Russ.) EDN: HHPNDP doi: 10.17116/rosakush20242403182

6. Ministry of Health of the Russian Federation. *Postpartum hemorrhage. Clinical guidelines*. Moscow; 2023. (In Russ.) [cited 2024 Dec 12]. Available from: <https://legalacts.ru/doc/klinicheskie-rekomendatsii-poslerodovoe-krovotечение-utv-minzdravom-rossii/?ysclid=m4l6r09dcv401461409>
7. Ministry of Health of the Russian Federation. *Pathological attachment of the placenta (placenta previa and accreta)*. Moscow; 2023.

- (In Russ.) [cited 2024 Dec 12]. Available from: <https://sudact.ru/law/klinicheskie-rekomendatsii-patologicheskoe-prikreplenie-platsenty-predlezhanie-i-klinicheskie-rekomendatsii/>
8. Kurtser MA, Breslav IY, Lukashina MV, et al., True placenta accreta: medical treatment. *Obstetrics and Gynecology*. 2011;(4):118–122. (In Russ.) EDN: PFRYNP

ОБ АВТОРЕ

Эдуард Карпович Айламазян, д-р мед. наук, профессор, академик РАН, засл. деят. науки РФ; адрес: Россия, 199034, Санкт-Петербург, Менделеевская линия, д. 3; ORCID: 0000-0002-9848-0860; eLibrary SPIN: 9911-1160; e-mail: ailamazyan@icloud.com

AUTHOR INFO

Eduard K. Ailamazyan, MD, Dr. Sci. (Medicine), Professor, Academician of the Russian Academy of Sciences, Honored Scientist of the Russian Federation; address: 3 Mendeleevskaya Line, Saint Petersburg, 199034, Russia; ORCID: 0000-0002-9848-0860; eLibrary SPIN: 9911-1160; e-mail: ailamazyan@icloud.com