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THE MAIN CHARACTERISTICS OF THE STRUCTURE OF THE OVUM OF THE FEMALE BODY

Mukhitdinova Khurshida Samikhovna, Temirova Dilnoza Olimjonovna

Asia International University

Annotation. *Female germ cells are called eggs, and male germ cells are called spermatozoa. Both of them are involved in fertilization. The egg matures every month in the left or right ovary, and then leaves it to meet the male sex cell. Let's take a closer look at the structure of the egg in order to learn more about the processes that take place inside us.*

Key words: *Egg, Ovogenesis, Gametogenesis, Cytoplasm, Nucleus, Karyoplasm*

Follicles with oocytes (immature eggs) are laid in a girl while still in the womb. Normally, their number is about 7 million. This number is decreasing due to diseases or bad habits of the mother, other adverse conditions, as well as natural causes. By the time of the first menstruation, 250-400 thousand cells remain. On average, a woman has 400 menstrual cycles during her reproductive age, which is the number of all mature germ cells.

Several follicles grow during the menstrual cycle. Only one matures — the dominant one, the rest do not have time to mature and die. An oocyte develops in the main follicle. The mature follicle bursts, and the oocyte exits it into the fallopian tube. This means that a woman is ovulating. Conception is possible only during this period. If two eggs come out at once in one cycle, a woman can become pregnant with twins.

The egg is the largest cell in the human body, it can even be viewed without a microscope, with the naked eye. It is about 20 times the size of a sperm cell. The diameter is 0.12 mm, which is comparable to a grain of sand. The oocyte has the shape of a ball. After leaving the ovary, it lives from 12 to 36 hours. After this period, it breaks down and is excreted during menstruation.

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The core

In the center of the cell is the nucleus, which carries the genetic information in half a set of chromosomes. It has 23 chromosomes. The male reproductive cell contains the same amount. By uniting, they give rise to a new life. The sex of the unborn child is determined by the male sex chromosome.

Cytoplasm

The nucleus is surrounded by cytoplasm (ovoplasm), which contains organoids and reserve nutrients necessary for the development of the embryo at the initial stages of growth. During fertilization, the sperm gets rid of the cytoplasm. And the egg must store the substances necessary for the formation of the future embryo. The cell synthesizes some of them by itself.

Organelles

In addition to the nucleus, the cytoplasm contains other organelles — components of the cell that are vital for its existence.

Mitochondria are called the energy stations of the cell. The main function of these organelles is the synthesis of ATP. It is a universal source of energy for all biochemical reactions in a living organism. Mitochondria contain their own DNA, which is inherited only through the maternal line. This is because male gametes lose mitochondria during fertilization.

The endoplasmic reticulum consists of tubes and pockets surrounded by a membrane. This network is involved in metabolism. Protein transport and synthesis take place in it, and a supply of calcium is created.

The Golgi apparatus is used to remove substances that are synthesized in the endoplasmic reticulum. It is also involved in the accumulation and sorting of substances using various enzymes.

Shells

The cytoplasm is surrounded by several shells at once.

The yolk membrane is an internal protective layer that helps recognize spermatozoa using special protein receptors. Sperm of another biological species cannot pass through this membrane.

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The shiny shell (zona pellucida) prevents the penetration of more than one sperm. It also holds together the cells of the embryo, which at first are not yet connected to each other. Without support, they can simply fly apart. After conception, the earliest processes of cell division in the embryo take place inside the shiny shell. On days 5-6, the embryo reaches the blastocyst stage and leaves the shell. After that, it is ready for implantation into the uterine wall.

The radiant crown (corona radiata) is the outer layer, which consists of special follicular cells. They are responsible for nutrition and produce the necessary hormones. The name radiant crown was given because of the appearance in the microscope: a lot of villi on the surface resemble rays.

Spermatozoa that have penetrated the uterus try to destroy the surface of the egg with the help of enzymes. But only one gets inside. After this happens, the shells change, and other spermatozoa can no longer penetrate through the dense layers. In rare cases, this does happen, but a viable fetus is not formed.

Features of the egg cell structure in different animal species

The structure of the reproductive cells of animals depends on the method of reproduction and the conditions in which the fetus develops before its birth. In some eggs, the yolk is completely missing. This is typical, for example, for flatworms. In humans, as in other mammals, the egg contains an average amount of yolk. Multi-yolk cells are characteristic of bony fish, reptiles, and birds.

The ratio of egg and sperm sizes differs from species to species. For example, in a sea urchin, this ratio is 10,000:1, which is much higher than in humans. The eggs themselves are the largest in fish, amphibians, reptiles, and birds. Their cytoplasm contains a huge amount of nutrients for the development of the embryo.

In birds, the egg is the part of the egg that is usually considered the yolk. Its diameter in a chicken is 3 cm, and in an ostrich it reaches 10-11 cm. When moving through the oviduct, the bird's germ cell becomes overgrown with an additional hard layer — a shell that will protect the future chick.

The role of the egg in the development of the body

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Fertilization is the fusion of female and male gametes. Together, they form a new single-celled organism called a zygote. At the crushing stage, the zygote is divided into smaller parts, while its total volume does not increase. A dense cluster of cells (morula) then becomes a multicellular embryo.

At the very beginning of its existence, the embryo takes nutrients from the egg. To do this, it contains yolk granules, which are filled with fats, vitamins, trace elements, and a small amount of protein. That is, the egg is crucial in the early formation of the body, and not only transmits genetic information.

Previously, it was believed that the role of the egg in fertilization is exclusively passive. Millions of spermatozoa are actively moving towards the goal, while the female cell is just waiting motionlessly. But new research by scientists at the University of Manchester has shown that this is not entirely true. Eggs use chemical signals to attract sperm. So, they choose those that lack damaged genes.

Conclusion

Studying the structure of the egg cell provides scientists with valuable information about the processes of development of living beings. In turn, research by scientists helps women when planning pregnancy.

An important feature of female germ cells is that their number is limited. Sperm cells in men are updated regularly, and oocytes are laid even at the embryonic stage, and with age they become fewer. This indicates the importance for a woman of taking care of her health. Bad habits, lack of sleep, poor nutrition — all this worsens the quality of eggs and affects the unborn baby.

LITERATURE

1. Temirova, D. O. (2024). Diagnosis of Cervical Erosion. *American Journal of Bioscience and Clinical Integrity*, *1*(11), 84-89.

2. Темирова, Д. А. (2024). СОВРЕМЕННЫЕ МЕТОДЫ ЛЕЧЕНИЯ СИНДРОМА АШЕРМАНА. *Modern education and development*, *16*(10), 132-142.

3. Темирова, Д. О. (2024). КЛИНИЧЕСКОЕ ЗНАЧЕНИЕ МИОМЫ МАТКИ В ГИНЕКОЛОГИИ. *Modern education and development*, *16*(10), 116-131.

4. Olimjonovna, T. D. (2024). THE SYNDROME OF UNFORTUNATE CONSEQUENCES HELPPA. *Modern education and development*, *16*(10), 156-166.

5. Olimjonovna, T. D. (2024). UTERINE PROLAPSE IS A DELICATE PROBLEM FOR WOMEN. *Modern education and development*, *16*(10), 167-176.

6. Olimjonovna, T. D. (2024). BACTERIAL VAGINOSIS IS A DANGEROUS DISEASE. *Modern education and development*, *16*(10), 143-155.

7. Sh, O. F., Ikhtiyarova, G. A., Xudoyqulova, F. S., & Abdieva, N. U. (2023). EFFECTIVE AND EXPRESS METHOD FOR DIAGNOSING THE CERVICAL AND VAGINA DISEASES IN REPRODUCTIVE AGE WOMEN.

8. Abdieva, N. (2024). CONDITION OF BREAST TISSUEAND THE RISK OF DEVELOPING BREAST CANCER IN PATHOLOGICAL SECERATION SYNDROME. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(4), 161-170.

9. Abdieva, N. (2024). THE ROLE OF GENETIC PREDICTORS OF METABOLIC DISORDERS IN WOMEN WITH POLYCYSTIC OVARY SYNDROME CONCOMITANT WITH CERVICAL NEOPLASIA. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(3), 50-54.

10. Ulugbekovna, A. N. (2024). ENDOSCOPIC-MORPHOLOGICAL CHARACTERISTICS OF BACKGROUND DISEASES OF THE CERVIX. *Лучшие интеллектуальные исследования*, *14*(4), 120-129.

11. Абдиева, Н. У. (2024). ПЛОДОВЫЕ ФАКТОРЫ РАЗВИТИЯ НЕРАЗВИВАЮЩИЙ БЕРЕМЕННОСТИ ПРИ ИНСТРАЭПИТЕЛИАЛЬНОЙ НЕОПЛАЗИИ ШЕЙКИ МАТКИ. *AMERICAN JOURNAL OF APPLIED MEDICAL SCIENCE*, *2*(5), 145-156.

12. Oripova, F. S., Ikhtiyarova, G. A., & Abdieva, N. U. (2021). SYMPTOMATIC, CYTOLOGICAL AND PH-METRY INDICATORS IN EXPERIMENTAL VAGINITIS. *Central Asian Journal of Pediatrics*, *2021*(2), 82-92.

13. Ikhtiyarova, G. A., ORIPOVA, F., & Abdiyeva, N. U. Учредители: Институт иммунологии Академии Наук Республики Узбекистан. *ТЕОРЕТИЧЕСКОЙ И КЛИНИЧЕСКОЙ МЕДИЦИНЫ Учредители: Институт иммунологии*

Академии Наук Республики Узбекистан ISSN: 2091-5853 КЛЮЧЕВЫЕ СЛОВА: AYOL JINSIY A'ZOLARINING YALLIG'LANISH KASALLIKLARI, ВОСПАЛИТЕЛЬНЫЕ ЗАБОЛЕВАНИЯ ЖЕНСКИХ ПОЛОВЫХ ОРГАНОВ, KURKUVIR, КУРКУВИР АННОТАЦИЯ: Ayol jinsiy a'zolarining yallig'lanish kasalliklari-yuqumli kasalliklar guruhiga mansub bo'lib, ginekologik kasalliklar tarkibiga kiradi va 60-65% ayollarda uchraydi. Maqsad. Kimyoviy modda bilan keltirib chiqaradigan eksperimental vaginit modelida yangi "Kurkuvir" vaginal shamchalarining yallig'lanishga qarshi va reparativ faolligini aniqlashni baholash. Tadqiqot materiallari. Og'irligi 2800-3000 g bo'lgan quyonlarda eksperimental tadqiqotlar o'tkazildi, quyidagi tadqiqotlar baholandi: qinning ph-metriyasi, qin shilliq qavatining jarohat maydonini ball orqali baholash, zamonaviy tezkor test Femoflor-16 yordamida qin mikrobiotsinozini baholash., sitologik va morfologik tadqiqotlar o'tkazildi. Natijalar. Kurkuvir yordamida vaginitni eksperimental davolashning farmakoterapiyasi qinda 2, 34 marta, bachadon bo'yni-2, 23 marta va uretrada-1, 91 marta sezilarli darajada kamayganligini ko'rsatdi. Xulosa. Vaginit va servisitlarni davolash uchun yangi Kurkuvir vaginal shamchalar tavsiya etiladi. Воспалительные заболевания женских половых органов-группа инфекционных заболеваний, которые составляют 60-65% у женщин в структуре гинекологии. Цель. Оценка определения противовоспалительной и репаративной активности новых вагинальных суппозиториев «Куркувир» на модели экспериментального вагинита, вызванного химическим агентом. Материалы и методы. Экспериментальные исследования проведены на кроликах самках массой 2800-3000 г. Оценивались следующие показатели: ph-метрия влагалища, полуколичественная оценка площади поражения слизистой оболочки влагалища в баллах, оценка микробиоциноза с помощью современного экспресс-теста Фемофлор-16, цитологические и морфологические данные. Результаты. Фармакотерапия экспериментального лечения вагинита с помощью Куркувир показал достоверное снижение, (1).

14. Abdieva, N. U. FEATURES OF EPITHELIAL-MESENCHYMAL TRANSITION IN ECTOPIC

ENDOMETRIUM IN PATIENTS WITH INTRAEPITHELIAL NEOPLASIA OF THE CERVIX.

15. Abdieva NU, A. N. (2024). MORPHOLOGICAL ASPECTS OF RABBIT LIVER DAMAGE DURING THYROIDECTOMY. *European Journal of Modern Medicine and Practice*, *4*(10), 222-230.

16. Abdieva, N. U. (2024). THE ROLE OF CYTOKINES IN THE DEVELOPMENT OF CERVICAL ECTOPIA AND ITS PREVENTION. *Valeology: International Journal of Medical Anthropology and Bioethics (2995-4924)*, *2*(9), 112-119.

17. Samixovna, M. K. (2024). MORPHOLOGICAL FEATURES OF POSTPARTUM CHANGES IN UTERINE MEMBRANES. SCIENTIFIC JOURNAL OF APPLIED AND MEDICAL SCIENCES, 3(4), 277-283.

18. Samixovna, M. K. (2024). Current Data on Morphological and Functional Characteristics of the Thyroid Gland in Age Groups. JournalofScienceinMedicineandLife, 2(5), 77-83.

19. Samixovna, M. X. (2024). AYOL ORGANIZMI REPRODUKTIV ORGANLARINING RIVOJLANISH XUSUSIYATLARI. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *55*(2), 113-121.

20. Мухиддинова, Х. С. (2024). РАЗВИТИЕ ЯИЧНИКОВ, ИХ МОРФОЛОГИЯ И ОСОБЕННОСТИ ФУНКЦИОНИРОВАНИЕ. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *55*(2), 134-141.

21. Samixovna, M. X. (2024). BACHADON BO ‘YNI RAKINING ZAMONAVIY TASHXISOTI VA PROFILAKTIKASI. *Modern education and development*, *16*(11), 62-72.

22. Samixovna, M. X. (2024). BACHADON BO ‘YNINING KASALLIKLARDAGI KLINIKO-MORFOLOGIK AHAMIYATI. *Modern education and development*, *16*(11), 73-84.

23. Samixovna, M. X. (2024). BACHADON ENDOMETRIYSINING HOMILADORLIK YUZAGA KELISHIDAGI AHAMIYATI. *Modern education and development*, *16*(11), 51-61.

24. Samixovna, M. X. (2024). AYOLLARDA TUXUMDONLARDAGI SARIQ TANANING KLINIKO-MORFOLOGIK XUSUSIYATLARI. *Modern education and development*, *16*(11), 131-142.

25. Мухитдинова, Х. С. (2024). КЛИНИКО-МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ЖЕЛТОГО ТЕЛА В ЯИЧНИКАХ У ЖЕНЩИН. *Modern education and development*, *16*(11), 143-154.

26. Мухитдинова, Х. С. (2024). КЛИНИКО-МОРФОЛОГИЧЕСКОЕ ЗНАЧЕНИЕ ШЕЙКИ МАТКИ ПРИ ЗАБОЛЕВАНИЯХ. *Modern education and development*, *16*(11), 107-118.

27. Samikhovna, M. K. (2024). MODERN UNDERSTANDING OF THE DIAGNOSIS AND PREVENTION OF CERVICAL CANCER. *Modern education and development*, *16*(11), 96-106.

28. Мухитдинова, Х. С. (2024). СОВРЕМЕННАЯ ДИАГНОСТИКА И ПРОФИЛАКТИКА РАКА ШЕЙКИ МАТКИ. *Modern education and development*, *16*(11), 85-95.

29. Samikhovna, M. K. (2024). CLINICAL AND MORPHOLOGICAL SIGNIFICANCE OF THE CERVIX IN DISEASES. *Modern education and development*, *16*(11), 119-130.

30. Samikhovna, M. K. (2024). MORPHOLOGICAL FEATURES OF THE YELLOW BODY IN WOMEN. *Modern education and development*, *16*(11), 155-166.

31. Khalimova, Y. S. (2024). Features of Sperm Development: Spermatogenesis and Fertilization. *American Journal of Bioscience and Clinical Integrity*, *1*(11), 90-98.

32. Salokhiddinovna, K. Y. (2024). IMMUNOLOGICAL CRITERIA OF REPRODUCTION AND VIABILITY OF FEMALE RAT OFFSPRING UNDER

THE INFLUENCE OF ETHANOL. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(10), 200-205.

33. KHALIMOVA, Y. S. (2024). MORPHOFUNCTIONAL CHARACTERISTICS OF TESTICULAR AND OVARIAN TISSUES OF ANIMALS IN THE AGE ASPECT. *Valeology: International Journal of Medical Anthropology and Bioethics*, *2*(9), 100-105.

34. Saloxiddinovna, X. Y., & Ne'matillaevna, X. M. (2024). FEATURES OF THE STRUCTURE OF THE REPRODUCTIVE ORGANS OF THE FEMALE BODY. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *55*(2), 179-183.

35. Xalimova, Y. S. (2024). Morphology of the Testes in the Detection of Infertility. *Journal of Science in Medicine and Life*, *2*(6), 83-88.

36. Халимова, Ю. С., & Хафизова, М. Н. (2024). ОСОБЕННОСТИ СОЗРЕВАНИЕ И ФУНКЦИОНИРОВАНИЕ ЯИЧНИКОВ. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *55*(2), 188-194.

37. Saloxiddinovna, X. Y. (2024). Modern Views on the Effects of the Use of Cholecalciferol on the General Condition of the Bod. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, *3*(5), 79-85.

38. Халимова, Ю. С., & Хафизова, М. Н. (2024). МОРФО-ФУНКЦИОНАЛЬНЫЕ И КЛИНИЧЕСКИЕ АСПЕКТЫ СТРОЕНИЯ И РАЗВИТИЯ ЯИЧНИКОВ (ОБЗОР ЛИТЕРАТУРЫ). *TADQIQOTLAR. UZ*, *40*(5), 188-198.

39. Salokhiddinovna, X. Y. (2023). INFLUENCE OF EXTERNAL FACTORS ON THE MALE REPRODUCTIVE SYSTEM. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *3*(10), 6-13.

40. Saloxiddinovna, X. Y. (2024). MORPHOFUNCTIONAL FEATURES OF THE STRUCTURE AND DEVELOPMENT OF THE OVARIES. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(4), 220-227.

41. ZHUMAEVA, D. (2024). OPTIMIZATION OF METHODS OF DIAGNOSTICS OF VARIOUS FORMS OF ENDOMETRIOSIS IN WOMEN OF

REPRODUCTIVE AGE. *Valeology: International Journal of Medical Anthropology and Bioethics (2995-4924)*, *2*(9), 120-125.

42. Абдукаримов, У. Г., Ихтиярова, Г. А., & Джумаева, Д. Р. (2024). Скрининг Рака Молочной Железы: Настоящее И Будущее. Обзор Литературы. *Research Journal of Trauma and Disability Studies*, *3*(2), 144-148.

43. Хикматова, Н. И., & Жумаева, Д. Р. (2023). Инвазивные И Неинвазивные Методы Диагностики Заболевания Молочных Желез. *Central Asian Journal of Medical and Natural Science*, *4*(6), 652-658.

44. D.R.Zhumaeva, D.R.Zhumaeva (2024) *The State of the Vaginal Microbiocenosis, Bacterial Vaginosis andits Treatment Options*. American Journal of Bioscience and Clinical Integrity, 1 (11). pp. 78-83. ISSN 2997-7347

45. Жумаева, Д. Р. (2024). АНАЛИЗ ГИНЕКОЛОГИЧЕСКОЙ ПАТОЛОГИИ У ЖЕНЩИН ПОЗДНЕГО РЕПРОДУКТИВНОГО ПЕРИОДА ЗАБОЛЕВАНИЯМИ МОЛОЧНОЙ ЖЕЛЕЗЫ. *Modern education and development*, *16*(10), 105-115.

46. Жумаева, Д. Р. (2024). АНАЛИЗ ГИНЕКОЛОГИЧЕСКОЙ ПАТОЛОГИИ У ЖЕНЩИН ПОЗДНЕГО РЕПРОДУКТИВНОГО ПЕРИОДА ЗАБОЛЕВАНИЯМИ МОЛОЧНОЙ ЖЕЛЕЗЫ. *Modern education and development*, *16*(10), 105-115.

47. Жумаева, Д. Р. (2024). СОСТОЯНИЕ МИКРОБИОЦЕНОЗА ВЛАГАЛИЩА, БАКТЕРИАЛЬНЫЙ ВАГИНОЗ И ВОЗМОЖНОСТИ ЕГО ЛЕЧЕНИЯ. *Modern education and development*, *16*(10), 90-104.

48. Жумаева, Д. Р. (2024). ОПТИМИЗАЦИЯ МЕТОДОВ ДИАГНОСТИКИ РАЗЛИЧНЫХ ФОРМ ЭНДОМЕТРИОЗА У ЖЕНЩИН РЕПРОДУКТИВНОГО ВОЗРАСТА. *Modern education and development*, *16*(10), 79-89.

49. Djumaeva, D. R. (2024). TOMOSINTEZ BILAN RAQAMLI MAMMOGRAFIYA NAZORATI OSTIDA KO'KRAK BEZINING STEREOTAKSIK BIOPSIYASI. *Modern education and development*, *16*(10), 53-64.