ISSN 2181-3187

METHOD FOR PREDICTING PREMATURE LEAVAGE OF AMBITIONAL FLUID WITH DETERMINATION OF SPECIFIC SIGNAL MOLECULES IN BUCCAL EPITHELIA

Kayumova G.M.
Bukhara State Medical Institute named after Abu Ali ibn Sina, Bukhara, Republic of Uzbekistan

RELEVANCE OF THE PROBLEM Premature rupture of amniotic fluid (PROM) is one of the most common complications of pregnancy (from 8.3 to 19.7%) and is one of the main reasons for the high percentage of surgical delivery , obstetric trauma and neonatal complications. The prognosis for the outcome of childbirth is quite unfavorable when PIOV occurs against the background of a “ripening” or “immature” cervix. The development of non-invasive methods for predicting PIOV in order to reduce perinatal morbidity and mortality is very important. Purpose of the study: verification of key signaling molecules that ensure the integrity of the membranes in the buccal epithelium with the subsequent development of possible biomarkers non-invasive prediction of PIOV.

MATERIALS AND METHODS OF RESEARCH A comparative study of the expression of vascular endothelial growth factor (VEGF), metalloproteinase-9 (MMP 9), connexin-37, connexin-40, endorphins , enkephalins , actin, myosin in the buccal epithelium and fetal membranes of 50 patients of the main group was carried out (with PIOV) and in 50 patients of the control group (with timely rupture of amniotic fluid) at the Federal State Budgetary Institution " NIIAGiR named after. BEFORE. Otta ." The study of fetal membranes and buccal epithelium was carried out using primary monoclonal mouse antibodies to the studied markers. A universal kit containing biotinylated anti-mouse immunoglobulins. The preparations were studied using an OLYMPUS confocal microscope FLUOVIEW FV 1000 (OLYMPUS , Japan) at ×400 and ×1000 magnification using an MRC -1024 system equipped with the OLYMPUS computer processing program FLUOVIEW 5.0.

RESEARCH RESULTS When conducting a comparative assessment of the optical density of the expression of signaling molecules, it was found that the expression of MMP 9 was significantly higher in the group with PIOV compared to the control group both in the buccal epithelium (1.7498 ± 0.009598 and 0.952 ± 0.009943) and in the membranes (1.941 ± 0.011 and 1.223 ± 0.016), $p < 0.001$. The optical density of VEGF expression in patients with PIOV is significantly lower than in patients with timely rupture of amniotic fluid, both in the buccal epithelium (2.169 ± 0.009 and 2.605 ± 0.017) and in the fetal membranes (1.235 ± 0.01 and 1.712 ± 0.009) , $p < 0.001$. A significant decrease in the optical density of the expression of

ISSN 2181-3187

connexin-37 and connexin-40 was also obtained in the group with PIOV compared with the control group both in the buccal epithelium (0.849 ± 0.019 and 1.706 ± 0.014; 1.222 ± 0.008 and 2.32 ± 0.014) and in membranes (1.729 ± 0.024 and 2.23 ± 0.009; 0.908 ± 0.01 and 2.051 ± 0.007), p <0.001 . There was no significant difference in the optical density of endorphin and myosin expression in the group with PIOV compared to the control group. The optical density of enkephalin expression in the group with PIOV in the buccal epithelium is lower (1.946 ± 0.013 and 2.103 ± 0.015), and in the fetal membranes is higher than in the control group (1.667 ± 0.013 and 1.401 ± 0.011), p <0.001 . The optical density of actin in the buccal epithelium in PIOV is higher than in the control group (0.417 ± 0.02 and 0.304 ± 0.01), p <0.001 , and in the fetal membranes it is lower than in the control group (0.599 ± 0.012 and 1.392 ± 0.021), p < 0.001. To make it possible to use signaling molecules of the buccal epithelium as IHC markers for predicting PIOV, the correlation coefficients of the optical density of the expression of molecules in the buccal epithelium and fetal membranes were calculated. Significant correlations of the optical density of MMP 9 expression in the buccal epithelium with the optical density of MMP 9 expression in the fetal membranes were obtained both in the group with PIOV (correlation coefficient - 0.763) and in the control group (correlation coefficient - 0.702). Significant correlations of the optical density of VEGF expression in the buccal epithelium with the optical density of VEGF expression in the fetal membranes were also obtained both in the group with PIOV (correlation coefficient - 0.752) and in the control group (correlation coefficient - 0.706). Reliable correlations of the optical density of expression of other molecules (connexin-37, connexin-40, endorphins , enkephalins , actin, myosin) in the buccal epithelium with the optical density of expression of the same molecules in the fetal membranes have not been obtained.

CONCLUSIONS As a result of the conducted studies, signaling molecules in the buccal epithelium and fetal membranes were verified. Significant differences in the expression of MMP 9 and VEGF were obtained between the group with PIOV and the control group. High correlations were obtained between the optical density of expression of these molecules in the buccal epithelium and the optical density of expression of the same molecules in the fetal membranes both in the group with PIOV and in the control group. Thus, the research results allow us to recommend MMP 9 and VEGF as prognosis markers zirovaniye PIOV.

BIBLIOGRAPHY

1. Уроков, Ш. Т., & Хамроев, Х. Н. (2019). Influe of diffusion diseases of the liver on the current and forecfst of obstructive jaundice. *Тиббиётда янги кун*, *1*, 30.

2. TESHAEV, S. J., TUHSANOVA, N. E., & HAMRAEV, K. N. (2020). Influence of environmental factors on the morphometric parameters of the small intestine of rats in postnatal ontogenesis. *International Journal of Pharmaceutical Research (09752366)*, *12*(3).

3. Хамроев, Х. Н. (2022). Toxic liver damage in acute phase of ethanol intoxication and its experimental correction with chelate zinc compound. *European journal of modern medicine and practice*, *2*, 2.

4. Khamroev, B. S. (2022). RESULTS OF TREATMENT OF PATIENTS WITH BLEEDING OF THE STOMACH AND 12 DUO FROM NON-STEROIDAL ANTI-INFLAMMATORY DRUGS-INDUCED OENP. *Journal of Pharmaceutical Negative Results*, 1901-1910.

5. Nutfilloyevich, K. K. (2023). STUDY OF NORMAL MORPHOMETRIC PARAMETERS OF THE LIVER. *American Journal of Pediatric Medicine and Health Sciences (2993-2149)*, *1*(8), 302-305.

6. Nutfilloyevich, K. K. (2024). NORMAL MORPHOMETRIC PARAMETERS OF THE LIVER OF LABORATORY RATS. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *36*(3), 104-113.

7. Nutfilloevich, K. K., & Akhrorovna, K. D. (2024). MORPHOLOGICAL CHANGES IN THE LIVER IN NORMAL AND CHRONIC ALCOHOL POISONING. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *36*(3), 77-85.

8. Kayumova, G. M., & Hamroyev, X. N. (2023). SIGNIFICANCE OF THE FEMOFLOR TEST IN ASSESSING THE STATE OF VAGINAL MICROBIOCENOSIS IN PRETERM VAGINAL DISCHARGE. *International Journal of Medical Sciences And Clinical Research*, *3*(02), 58-63.

9. Каюмова, Г. М., Хамроев, Х. Н., & Ихтиярова, Г. А. (2021). *Причины риска развития преждевременных родов в период пандемии организм и среда жизни к 207-летию со дня рождения Карла Францевича Рулье: сборник материалов IV-ой Международной научнопрактической конференции (Кемерово, 26 февраля 2021 г.)*. ISBN 978-5-8151-0158-6.139-148.

10. Хамроев, Х. Н., & Тухсанова, Н. Э. (2022). НОВЫЙ ДЕНЬ В МЕДИЦИНЕ. *НОВЫЙ ДЕНЬ В МЕДИЦИНЕ Учредители: Бухарский государственный медицинский институт, ООО" Новый день в медицине"*, (1), 233-239.

11. Хамроев, Х. Н. (2024). Провести оценку морфологических изменений печени в норме и особенностей характера ее изменений при хронической алкогольной интоксикации. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *36*(3), 95-3.

12. Хамроев, Х. Н., & Туксанова, Н. Э. (2021). Characteristic of morphometric parameters of internal organs in experimental chronic alcoholism. *Тиббиётда янги кун*, *2*, 34.

13. Хамроев, Х. Н., Хасанова, Д. А., Ганжиев, Ф. Х., & Мусоев, Т. Я. (2023). Шошилинч тиббий ёрдам ташкил қилишнинг долзарб муаммолари: Политравма ва ўткир юрак-қон томир касалликларида ёрдам кўрсатиш масалалари. *XVIII Республика илмий-амалий анжумани*, *12*.

14. Хамроев, Х. Н., & Хасанова, Д. А. (2023). Жигар морфометрик кўрсаткичларининг меъёрда ва экспериментал сурункали алкоголизмда қиёсий таснифи. *Медицинский журнал Узбекистана| Medical journal of Uzbekistan*, *2*.

15. Khamroyev, X. N. (2022). TOXIC LIVER DAMAGE IN ACUTE PHASE OF ETHANOL INTOXICATION AND ITS EXPERIMENTAL CORRECTION WITH CHELATE ZINC COMPOUND. *European Journal of Modern Medicine and Practice*, *2*(2), 12-16.

16. Xamroyev, X. N. (2022). The morphofunctional changes in internal organs during alcohol intoxication. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *2*(2), 9-11.

17. Khamroyev, X. N. (2022). TOXIC LIVER DAMAGE IN ACUTE PHASE OF ETHANOL INTOXICATION AND ITS EXPERIMENTAL CORRECTION WITH CHELATE ZINC COMPOUND. *European Journal of Modern Medicine and Practice*, *2*(2), 12-16.

18. Xamroyev, X. N. (2022). The morphofunctional changes in internal organs during alcohol intoxication. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *2*(2), 9-11.

19. Латипов, И. И., & Хамроев, Х. Н. (2023). Улучшение Результат Диагностике Ультразвуковой Допплерографии Синдрома Хронической Абдоминальной Ишемии. *Central Asian Journal of Medical and Natural Science*, *4*(4), 522-525.

20. Хамроев, Х. Н., & Уроков, Ш. Т. (2019). ВЛИЯНИЕ ДИФФУЗНЫХ ЗАБОЛЕВАНИЙ ПЕЧЕНИ НА ТЕЧЕНИЕ И ПРОГНОЗ МЕХАНИЧЕСКОЙ ЖЕЛТУХИ. *Новый день в медицине*, (3), 275-278.

21. Хамроев, Х. Н., & Ганжиев, Ф. Х. (2023). Динамика структурно-функциональных нарушение печени крыс при экспериментальном алгоколние циррозе. *Pr oblemsofmodernsurgery*, *6*.

22. Уроков, Ш. Т., & Хамроев, Х. Н. (2018). Клинико-диагностические аспекты механической желтухи, сочетающейся с хроническими диффузными заболеваниями печени (обзор литературы). *Достижения науки и образования*, (12 (34)), 56-64.

23. Nutfilloevich, H. K., & Akhrorovna, K. D. (2023). COMPARATIVE CLASSIFICATION OF LIVER MORPHOMETRIC PARAMETERS IN THE LIVER AND IN EXPERIMENTAL CHRONIC ALCOHOLISM. *International Journal of Cognitive Neuroscience and Psychology*, *1*(1), 23-29.

24. Ikhtiyarova, G. A., Dustova, N. K., & Qayumova, G. (2017). Diagnostic characteristics of pregnancy in women with antenatal fetal death. *European Journal of Research*, (5), 5.

25. Kayumova, G. M., & Nutfilloyevich, K. K. (2023). CAUSE OF PERINATAL LOSS WITH PREMATURE RUPTURE OF AMNIOTIC FLUID IN WOMEN WITH ANEMIA. *AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI*, *2*(11), 131-136.

26. Kayumova, G. M., & Dustova, N. K. (2023). Significance of the femoflor test in assessing the state of vaginal microbiocenosis in preterm vaginal discharge. Problems and scientific solutions. In *International conference: problems and scientific solutions. Abstracts of viii international scientific and practical conference* (Vol. 2, No. 2, pp. 150-153).

27. Каюмова, Г. М., Мухторова, Ю. М., & Хамроев, Х. Н. (2022). Определить особенности течения беременности и родов при дородовом излитии околоплодных вод. *Scientific and innovative therapy. Научный журнал по научный и инновационный терапии*, 58-59.

28. Kayumova, G. M., & Dustova, N. K. (2023). ASSESSMENT OF THE STATE OF THE GENITAL TRACT MICROBIOCENOSIS IN PREGNANT WOMEN WITH PREMATURE RUPTURE OF THE MEMBRANES USING THE FEMOFLOR TEST. *Modern Scientific Research International Scientific Journal*, *1*(1), 70-72.

29. Valeryevna, S. L., Mukhtorovna, K. G., & Kobylovna, E. S. (2019). Premature Birth In A Modern Aspect. *International Journal of Bio-Science and Bio-Technology*, *11*(10), 31-37.

30. Саркисова, Л. В., Каюмова, Г. М., & Умидова, Н. Н. (2018). Морфологические изменения фетоплацентарного комплекса при герпетической инфекции. *Тиббиётда янги кун*, 188-191.

31. Каюмова, Г. М., Саркисова, Л. В., & Умидова, Н. Н. (2018). Современные взгляды на проблему преждевременных родов. *Тиббиётда янги кун*, 183-185.

32. Каюмова, Г. М., Хамроев, Х. Н., & Ихтиярова, Г. А. (2021). *Причины риска развития преждевременных родов в период пандемии организм и среда жизни к 207-летию со дня рождения Карла Францевича Рулье: сборник материалов IV-ой Международной научнопрактической конференции (Кемерово, 26 февраля 2021 г.)*. ISBN 978-5-8151-0158-6.139-148.

33. Саркисова, Л. В., Каюмова, Г. М., & Бафаева, Н. Т. (2019). Причины преждевременных родов и пути их решения. *Биология ва тиббиёт муаммолари*, *115*(4), 2.

34. Kayumova, G. M., & Dustova, N. K. (2023). Significance of the femoflor test in assessing the state of vaginal microbiocenosis in preterm vaginal discharge. Problems and scientific solutions. In *International conference: problems and scientific solutions. Abstracts of viii international scientific and practical conference* (Vol. 2, No. 2, pp. 150-153).

35. KAYUMOVA, G., & DUSTOVA, N. (2023). *Features of the hormonal background with premature surge of amniotic fluid. Of the international scientific and practical conference of young scientists «Science and youth: conference on the quality of medical care and health literacy» Ministry of healthcare of the republic of kazakhstan kazakhstan's medical university «KSPH»*. ISBN 978-601-305-519-0.29-30.

36. Қаюмова, Г. М. НҚ Дўстова.(2023). Muddatdan oldin qog'onoq suvining ketishida xavf omillarning ta'sirini baholash. *Журнал гуманитарных и естественных наук*, *2*(07), 11-18.

37. Каюмова, Г. М., & Мухторова, Ю. М. (2022). Пороговые значения антител к эстрадиолу, прогестерону и бензо [а] пирену как факторы риска преждевременного излития околоплодных вод при недоношенной беременности. *Scientific and innovative therapy. Научный журнал по научный и инновационный терапии*, 59-60.

38. Sarkisova, L. V., & Kayumova, G. M. (2019). Exodus of premature birth. *Тиббиётда янги кун*, *1*(25), 155-159.

39. Саркисова, Л. В., & Каюмова, Г. М. (2018). Перинатальный риск и исход преждевременных родов. *Проблемы медицины и биологии*, 169-175.

40. Каюмова, Г. М., Саркисова, Л. В., & Рахматуллаева, М. М. (2018). Особенности состояния плаценты при преждевременных родах. In *Республиканской научно практической конференции «Актуальные вопросы охраны здоровья матери и ребенка, достижения и перспективы* (pp. 57-59).

41. Каюмова, Г. М., Саркисова, Л. В., & Саъдуллаева, Л. Э. (2018). Показатели центральной гемодинамики и маточно-фетоплацентарного кровотока при недонашивании беременности. In *Республиканской научно практической конференции «Актуальные вопросы охраны здоровья матери и ребенка, достижения и перспективы* (pp. 56-57).

42. Саркисова, Л., Каюмова, Г., & Рузиева, Д. (2019). Современные тренды преждевременных родов. *Журнал вестник врача*, *1*(4), 110-114.

43. Каюмова, Г. М., & Ихтиярова, Г. А. (2021). Причина перинатальных потер при преждевременных родов у женщин с анемией.(2021). In *Материалы*

республиканской научно-практической онлайн конференции.«Актуальные проблемы современной медицины в условиях эпидемии (pp. 76-7).

44. Kayumova, G. M., Khamroev, X. N., & Ixtiyarova, G. A. (2021). Morphological features of placental changes in preterm labor. *Тиббиётда янги кун*, *3*(35/1), 104-107.

45. Khamroyev XN, Q. G. (2021). Improving the results of treatment of choledocholithiasis in liver diseases.

46. Kayumova, G. M. (2023). TO DETERMINE THE FEATURES OF THE COURSE OF PREGNANCY AND CHILDBIRTH IN WOMEN WITH PRENATAL RUPTURE OF AMNIOTIC FLUID. *AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI*, *2*(11), 137-144.

47. Kayumova, G. M. (2023). To Determine the Features Of Pregnancy and Children During Antenature Ruption Of Ambient Fluid. *American Journal of Pediatric Medicine and Health Sciences (2993-2149)*, *1*(9), 66-72.

48. Kayumova, G. M. (2023). Features of the Hormonal Background During Premature Relation of Ambitional Fluid. *American Journal of Pediatric Medicine and Health Sciences (2993-2149)*, *1*(9), 73-79.

49. Kayumova, G. M. (2023). The Significance Of Anti-Esterogen And Progesterone Antibodies As A Risk Factor In Premature Rupture Of Amniotic Fluid. *American Journal of Pediatric Medicine and Health Sciences (2993-2149)*, *1*(9), 58-65.

50. Muxiddinovna, I. M. (2022). IMPACT OF ENERGY DRINKS AND THEIR COMBINATION WITH ALCOHOL TO THE RATS METOBOLISM. Gospodarka i Innowacje., 22, 544-549.

51. Mukhiddinovna, I. M. (2022). EFFECTS OF CHRONIC CONSUMPTION OF ENERGY DRINKS ON LIVER AND KIDNEY OF EXPERIMENTAL RATS. International Journal of Philosophical Studies and Social Sciences, 2(4), 6-11.

52. Muxiddinovna, I. M. (2022). Effects of Energy Drinks on Biochemical and Sperm Parameters in Albino Rats. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, *3*(3), 126-131

53. Ильясов, А. С., & Исматова, М. М. (2022). ЖИНСИЙ АЪЗОЛАРГА ЭНЕРГЕТИК ИЧИМЛИКЛАРНИНГ САЛБИЙ ТАСИРИ. *Uzbek Scholar Journal*, *5*, 66-69.

54. Muxiddinovna, I. M. (2022). Demage of Energy Drinks on the Spermatogenesis of Male Rat's. *Research Journal of Trauma and Disability Studies*, *1*(9), 111-118.

ISSN 2181-3187

55. Muxiddinovna, I. M. (2022). Effects of Energy Drinks on Biochemical and Sperm Parameters in Albino Rats. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, *3*(3), 126-131.

56. Muxiddinovna, I. M. (2022). Ameliorative Effect of Omega-3 on Energy Drinks-Induced Pancreatic Toxicity in Adult Male Albino Rats. *INTERNATIONAL JOURNAL OF HEALTH SYSTEMS AND MEDICAL SCIENCES*, *1*(5), 13-18.

57. Razokov, I. B., Rahimov, D. A., Ismatova, M. M., & Kurbonzoda, S. N. MAIN FACTORS CAUSING IRON-DEFICIENT ANEMIA IN CHILDREN OF EARLY AGES. In *SPECIAL EDITION FOR 1st BUKHARA INTERNATIONAL MEDICAL STUDENTS CONFERENCE* (p. 61).

58. Muxiddinovna, I. M., & Sobirovna, A. Z. (2022). Pregnancy with Twins with Preeclampsia. *Central Asian Journal of Literature, Philosophy and Culture*, *3*(11), 212-221.

59. Muxiddinovna, I. M., & Sobirovna, A. Z. (2022). Anemia Iron Deficiency in Pregnancy. *Central Asian Journal of Literature, Philosophy and Culture*, *3*(11), 191-199.

60. Mukhiddinovna, I. M. (2022). ENERGY DRINKS MAY AFFECT THE OVARIAN RESERVE AND SERUM ANTI-MULLERIAN HORMONE LEVELS IN A RAT MODEL. *BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI*, *2*(12), 626-632.

61. Mukhiddinovna, I. M. (2023). High Caffeine Exposure Increases Ovarian Estradiol Production in Immature Rats. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, *2*(3), 8-11.

62. Mukhiddinovna, I. M. (2023). Energy Fluids May Affect the Ovarian Reserve and Serum Anti-Mullerian Hormone Level. *Scholastic: Journal of Natural and Medical Education*, *2*(5), 358-364.

63. Mukhiddinovna, I. M. (2022). ENERGY DRINKS MAY AFFECT THE OVARIAN RESERVE AND SERUM ANTI-MULLERIAN HORMONE LEVELS IN A RAT MODEL. *BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI*, *2*(12), 626-632.