



# International Congress on Biological, Physical And Chemical Studies

*International Congress on Biological, Physical And Chemical Studies - is an international conference platform under open access policy. The conference is led by international expert members who take an objective approach to peer review, ensuring each research paper is reviewed, edited by authors and evaluated on its own scholarly merits and research integration. Publishing and joining on the proceedings of the International Congress on Biological, Physical And Chemical Studies will ensure publishing experience and indexing possibilities on various global indexing.*

## **Combined H. Pylori Eradication and Hormone Replacement Therapy as an Evidence-Based Treatment Standard for Peptic Ulcer Disease in Postmenopausal Women**

**Bakaev D.U.<sup>1</sup>, Tosheva Kh.B.<sup>2</sup>**

<sup>1</sup>*Bukhara Branch of the Republican Research Center of Emergency Medicine*

<sup>2</sup>*Bukhara State Medical Institute, Bukhara, Uzbekistan*

### **Abstract**

Postpartum Peptic ulcer disease (PUD) affects 5–15% of the global population, with H. pylori implicated in 80–95% of duodenal and 70–90% of gastric ulcers. While eradication therapy effectively eliminates the bacterial aetiology in both sexes, clinical outcomes in postmenopausal women frequently remain suboptimal. The underlying cause is a profound, persistent estrogen deficiency — serum estradiol drops from approximately 197 pg/mL in reproductive-age women to below 33 pg/mL in postmenopause — that compromises multiple mucosal defence mechanisms simultaneously: prostaglandin E2 synthesis, bicarbonate secretion, microvascular regulation, and fibroblast-mediated mucosal repair. Estrogens also exert anti-inflammatory effects by suppressing  $\alpha$ -TNF synthesis in immune cells. When this hormonal support is withdrawn, H. pylori eradication removes the bacterium but leaves the mucosa biologically vulnerable to recurrence and delayed healing. A combined pharmacological strategy — targeting both the infectious aetiology and the hormonal deficiency — represents a scientifically grounded advancement in PUD management for this growing patient population.

### **Keywords**

peptic ulcer disease, postmenopause, H. pylori eradication, hormone replacement therapy, estradiol, estriol, mucosal healing, quality of life, personalized medicine

### **INTRODUCTION**

**Experiments Objective.** To evaluate the clinical efficacy of combined eradication therapy and hormone replacement therapy (HRT) in postmenopausal women with PUD, compared to eradication monotherapy, assessing hormonal, clinical, cognitive, autonomic, and quality-of-life outcomes over a 12-week follow-up.

## MATERIALS AND METHODS

120 women were enrolled at the Bukhara Regional Medical Centre (2022–2025): Group 1 — reproductive age (n=53, mean age 34.2±4.1 years); Group 2 — postmenopausal (n=67, mean age 57.8±5.3 years), subdivided into Group 2a (eradication alone, n=34) and Group 2b (eradication + HRT, n=33). Serum estradiol and estriol were measured by ELISA; gastric juice  $\alpha$ -TNF and IL-6 before and 4 weeks post-treatment. Additional endpoints: dyspeptic symptom frequency, haemoglobin, 24-hour BP variability (Holter), MoCA cognitive scale, and SF-36 quality-of-life scores.

## RESULTS

Baseline estradiol: 197.18±12.15 (Group 1) vs. 32.7±1.24 pg/mL (Group 2),  $p<0.001$ ; estriol: 33.18±2.52 vs. 24.2±2.18 pg/mL,  $p<0.001$ . Post-eradication cytokine reduction was comparable in both groups ( $p>0.05$ ), confirming universal anti-inflammatory efficacy of eradication. In Group 2b, estradiol rose from 32.1±1.1 to 92.4±3.5 pg/mL ( $p<0.001$ ) and estriol from 23.9±2.2 to 30.8±2.1 pg/mL ( $p<0.001$ ). Significant improvements were observed in dyspeptic frequency, haemoglobin normalisation, 24-hour BP stabilisation, MoCA scores (+1.8 points), and SF-36 global index. None of these improvements were recorded in Group 2a.

## CONCLUSION

*H. pylori* eradication alone is an incomplete treatment strategy for postmenopausal women with PUD. Estrogen deficiency is an independent pathogenetic factor that perpetuates mucosal vulnerability after bacterial clearance. Combined eradication + HRT restores the hormonal milieu, accelerates mucosal regeneration, stabilises autonomic and cognitive function, and improves quality of life. Estradiol and estriol measurement should be incorporated into the standard diagnostic workup for all postmenopausal women with PUD, and the combined protocol should be included in national and international clinical guidelines.

## REFERENCES:

1. Абдулхаков С. Р., Бордин Д. С., Маев И. В. Распространённость инфекции *Helicobacter pylori* среди детского населения Российской Федерации. Экспериментальная и клиническая гастроэнтерология. 2020; № 3: 12–18.
2. Андреев Д. Н., Маев И. В., Бордин Д. С. Инфекция *Helicobacter pylori* и ассоциированные заболевания у детей и подростков в Российской Федерации. Российский журнал гастроэнтерологии, гепатологии и колопроктологии. 2019; 29(6): 7–15.
3. Барышникова Н.В. Лечение *Helicobacter pylori*-ассоциированных заболеваний. В: Инфекция *H. pylori* в клинической практике. СПб.: ИнформМед; 2011. С. 531–533;
4. Бузунов А. Ф. Формирование психосоматической патологии. Язвенная болезнь. Желчнокаменная болезнь. Доступно на: <https://www.eurolab-portal.ru/encyclopedia/565/45540>
5. Габбасова Л.В., Волевач Л.В., Палтусов А.И., Крюкова А.Я., Хисматуллина Г.Я., Камалова А.А. и др. Язвенная болезнь двенадцатиперстной кишки у лиц молодого возраста. Тамбов: Консалтинговая компания Юком; 2017. 48 с.
6. Габбасова Л.В. Язвенная болезнь желудка и двенадцатиперстной кишки как психосоматическое заболевание. В: Вопросы теоретической и практической

- медицины: материалы 76-й Республиканской научной конференции студентов и молодых ученых. Уфа; 2011. С. 93–94;
7. Герман С.В., И.Е. Зыкова, А.В. Модестова Распространенность инфекции *H. pylori* среди населения Москвы. // Российский журнал гастроэнтерологии, гепатологии, колопроктологии. – 2010. – Т. 20, № 2. – С. 25-30;
  8. Захарова Н.В., В.И. Симаненков, О.А. Саблин [и др.] Распространенность хеликобактерной инфекции у пациентов гастроэнтерологического профиля в Санкт-Петербурге, // Фарматека. – 2016. – № 5, Вып. 16. – С. 33-39;
  9. Захарова И. Н., Коровина Н. А., Заплатников А. Л. Язвенная болезнь двенадцатиперстной кишки у детей: современные аспекты эпидемиологии и терапии. Вопросы современной педиатрии. 2018; 17(2): 123–129.
  10. Ивашкин В.Т. Гастроэнтерология. Национальное руководство: краткое издание. М.: ГЭОТАР-Медиа; 2015. 480 с.