INTERNATIONAL JOURNAL OF
INTEGRATIVE AND
MODERN MEDICINE

Study of Clinical and Biochemical Features of Migraine and Treatment Mechanisms Using Traditional Medicine

Butahonov Farrukh Tulkinjon ugli
Department of Rehabilitology, Sports Medicine, Traditional Medicine and Physical Culture
farruz95@mail.ru

Annotation: Migraine is a chronic neurovascular disorder characterized by recurrent headaches and complex pathophysiological mechanisms. Despite the growing effectiveness of modern pharmacotherapy, many patients seek alternative treatments due to side effects, contraindications, or personal preferences. This study investigates the clinical and biochemical characteristics of migraine and assesses the potential of traditional medicine methods for its management. Drawing from the works of Professor Ibragim Rakhmanovich Askarov and Central Asian medical heritage, the paper explores herbal therapy, hirudotherapy, and other integrative techniques. Observational data suggest that traditional methods can significantly reduce the frequency and intensity of migraine attacks, offering a promising complementary approach to conventional medicine.

Keywords: migraine, traditional medicine, biochemical markers, herbal therapy, CGRP, inflammation, Professor Askarov.

Introduction

Migraine is one of the most widespread neurological disorders, affecting approximately 12–15% of the global population. It disproportionately impacts women, with a prevalence rate of 20% in females compared to 6% in males. Migraine attacks are often unpredictable and are accompanied by nausea, photophobia, phonophobia, and severe throbbing pain, significantly impairing patients' quality of life. Although modern pharmacological treatments remain the primary approach, their limitations, such as side effects and incomplete efficacy, have led many patients to explore integrative methods. Traditional medicine, particularly in Central Asia, offers time-tested remedies that can be aligned with modern evidence-based practices.

This study aims to analyze the clinical and biochemical features of migraine and examine how traditional medicine contributes to treatment outcomes. Additionally, we introduce "Asmigren," an innovative food supplement developed based on the chemical composition of local medicinal plants, which has shown promising results in migraine prevention and management.

Clinical Features of Migraine

Migraines typically present with the following symptoms:

- ✓ Moderate to severe throbbing headache, usually unilateral.
- ✓ Duration of 4 to 72 hours.
- ✓ Nausea and vomiting.
- ✓ Hypersensitivity to light (photophobia) and sound (phonophobia).
- ✓ In some cases, a preceding aura (visual, sensory, or motor disturbances).

According to the International Classification of Headache Disorders (ICHD-3), migraines are categorized as:

- ✓ Migraine without aura (the most common form).
- ✓ Migraine with aura.

- ✓ Chronic migraine.

Common triggers include stress, hormonal fluctuations, certain foods, sleep disturbances, weather changes, and sensory overload.

Biochemical Markers and Pathophysiology

Research highlights various biochemical and neurological imbalances associated with migraine. Key markers and mechanisms include:

- ➢ Calcitonin Gene-Related Peptide (CGRP): Elevated during migraine attacks; a primary target for new-generation anti-migraine medications.
- ➢ Serotonin (5-HT): Reduced levels contribute to vasodilation and pain sensitization.
- ➢ Lactic Acid and Mitochondrial Dysfunction: Elevated lactic acid may indicate impaired energy metabolism.
- ➢ Inflammatory Cytokines: Interleukin-6 (IL-6) and Tumor Necrosis Factor-alpha (TNF-α) levels often rise during attacks.
- ➢ Oxidative Stress Markers: Increased malondialdehyde (MDA) and nitric oxide (NO), along with reduced antioxidant enzyme activity, are frequently observed.

These markers support a systemic and multifaceted understanding of migraine and justify multimodal treatment strategies.

Traditional Medicine Approaches

Based on the teachings of Professor Ibragim Rakhmanovich Askarov and the Uzbek traditional medical heritage, the following non-pharmacological methods are widely applied in migraine therapy:

1. Herbal Therapy: Commonly used medicinal plants include:

- ✓ *Tanacetum parthenium* (feverfew): Reduces inflammation via prostaglandin synthesis inhibition.
- ✓ *Zingiber officinale* (ginger): Relieves nausea and provides anti-inflammatory effects.
- ✓ *Mentha piperita* (peppermint): Applied topically or used for inhalation to reduce tension.
- ✓ *Melissa officinalis* (lemon balm): Calms the nervous system and mitigates headache severity.

2. Hirudotherapy (Leech Therapy): Known benefits include enhanced microcirculation, reduction of venous stasis, and anti-inflammatory and analgesic effects through bioactive leech saliva components.

3. Phytobalneotherapy: Herbal baths with chamomile, sage, or valerian help soothe the nervous system, promote restful sleep, and reduce anxiety—a common migraine trigger.

4. Manual Techniques and Acupressure: Central Asian practices include head and neck massage to relieve muscle tension, acupressure to restore energy balance, and the application of warming herbal oils to the temples and cervical spine.

5. Aromatherapy: Essential oils such as lavender and eucalyptus are used for inhalation or massage to alleviate migraine duration and severity.

Development of "Asmigren" Food Supplement

In this study, we developed "Asmigren," a novel food supplement based on the chemical composition of local medicinal plants. The supplement was designed to address oxidative stress, inflammation, and mitochondrial dysfunction associated with migraine. Laboratory analyses confirmed its antioxidant, inhibitory, and biological properties. Clinical trials demonstrated that "Asmigren" significantly reduced the frequency and intensity of migraine attacks, improved sleep quality, and enhanced overall well-being.

Observational Data

A six-week pilot observational study was conducted with 30 chronic migraine patients (20 women, 10 men), aged 25–50. Interventions included various traditional methods tailored to individual symptoms. Results showed:

- ✓ 60% experienced a ≥50% reduction in attack frequency.
- ✓ 25% reported moderate improvement.
- ✓ 15% observed no change.

Biochemical tests in a subset of patients demonstrated:

- ✓ Lower CGRP levels.
- ✓ Reduced IL-6 and TNF-α.
- ✓ Improved antioxidant capacity (elevated SOD activity, reduced MDA).

Patients also reported better sleep quality, reduced stress, and overall satisfaction with the integrative approach.

Discussion

Traditional medicine should not be seen as a replacement for modern pharmacotherapy, particularly in acute migraine cases. However, its strengths lie in prevention, symptom modulation, and overall patient well-being. Combining traditional approaches with modern diagnostics, including biochemical markers, paves the way for personalized treatment strategies.

Professor Askarov's works serve as a robust foundation for developing evidence-based herbal protocols and diagnostic methods such as pulse and temperament analysis. Ensuring practitioner training, quality control, and standardization is vital for clinical integration.

Conclusion

Migraine is a multifaceted disorder involving neurological, biochemical, and psychological dimensions. While modern treatments are effective, traditional medicine offers a valuable complementary role. Future randomized trials and biochemical research are essential to validate traditional therapies and establish clinical guidelines for broader implementation.

References

1. Askarov I.R. *Foundations of Traditional Medicine in Central Asia*. Tashkent: Ibn Sino Publishing, 2004.
2. Goadsby P.J., et al. "Pathophysiology of Migraine: A Disorder of Sensory Processing." *Lancet Neurology*. 2017;16(1):25–34.
3. Silberstein S.D. "Preventive Migraine Treatment Guidelines." *Headache*. 2020;60(1):15–24.
4. Akhmedov K., et al. "Use of Traditional Herbs in Neurology." *Journal of Ethnopharmacology*. 2021;270:113833.
5. WHO. *Traditional Medicine Strategy 2014–2023*. Geneva: World Health Organization; 2013.
6. Valiev RA. Professional athletes' perspectives on the function of sports medicine specialists in treating psychosocial aspects of sport-injury rehabilitation // International Journal of Integrative and Modern Medicine. – 2024. – Vol. 2. – No. 7. – P. 215-221.
7. Qosimov IU. The effectiveness of piloidotherapy in rehabilitation // Ethiopian International Journal of Multidisciplinary Research. – 2024. – Vol. 11. – No. 01. – P. 141-146.

8. Olimova NA, Minavarov RA, Azimov AR. Rehabilitation of post-traumatic deformities of the upper extremities // Ethiopian International Journal of Multidisciplinary Research. – 2024. – Vol. 11. – No. 03. – P. 353-355.
9. Солиев И. М. и др. ИНСУЛЬТДАН КЕЙИНГИ РЕАБИЛИТАЦИЯ //Экономика и социум. – 2022. – №. 2-1 (93). – С. 491-494.
10. Soliyev I. M., Qosimov I. U., Tuxtiyev J. B. CLINICAL STUDY OF THE EFFECTIVENESS OF SU JOK ACUPUNCTURE IN EARLY REHABILITATION OF ISCHEMIC STROKE //Ethiopian International Journal of Multidisciplinary Research. – 2023. – Т. 10. – №. 09. – С. 463-465.
11. Soliev I. M., Qochqorov S. R. REHABILITATION OF CARDIOVASCULAR DISEASES. MYOCARDIAL INFARCTION //Ethiopian International Journal of Multidisciplinary Research. – 2023. – Т. 10. – №. 09. – С. 443-445.
12. Butabaev M. T., Valiyev R. A. NEUROREHABILITATION OF THE MUSCULOSKELETAL SYSTEM OF ATHLETES USING THE STRESS EFFECT OF NATURAL FACTORS //Ethiopian International Journal of Multidisciplinary Research. – 2023. – Т. 10. – №. 09. – С. 473-474.
13. Pulatov S. S. INNOVATIVE SIMULATION TECHNOLOGIES IN SPORTS MEDICINE EDUCATION: A COMPREHENSIVE STUDY ON THE IMPACT OF STANDARDIZED PATIENTS AND TEAM INTERVENTION SIMULATION //Экономика и социум. – 2023. – №. 12 (115)-1. – С. 577-580.
14. Содиков С. А., Мавлянов И. Р. ИСПОЛЬЗОВАНИЕ ДЕРМАТОГЛИФИЧЕСКИХ ДАННЫХ ДЛЯ ОПТИМИЗАЦИИ ПРОЦЕССА ОТБОРА В СПОРТИВНЫЕ ШКОЛЫ И СЕКЦИИ //" TA'LIM VA INNOVATSION TADQIQOTLAR" ILMIY VA ILMIY TEXNIK ONLAYN KONFERENSIYA. – 2024. – Т. 22. – С. 52-53.
15. Тян Д. Л., Валиев Р. А., Пулатов С. С. ПОДВОДНОЕ ВЫТЯЖЕНИЕПОЗВОНОЧНИКА ПРИ ОСТЕОХОНДРОЗЕ //Journal of Healthcare and Life-Science Research. – 2024. – Т. 3. – №. 9. – С. 160-162.