STRATEGIES FOR EARLY DETECTION AND EFFECTIVE MANAGEMENT OF MIGRAINE IN FAMILY PRACTICE

Andijan State Medical Institute

Assistant: M.M. Rakhmatova

Андижанский государственный медицинский институт

Ассистент: М.М. Рахматова

Andijon davlat tibbiyot instituti

Assistent: M.M. Raxmatova

Abstract

Migraine is a recurrent primary neurological disorder that reduces function and quality of life. This review presents an evidence-based primary-care approach to early recognition, exclusion of secondary headache, safe acute treatment, and prevention using ICHD-3, international guidance, and GBD 2021. It emphasizes red flags, diaries, MIDAS/HIT-6, overuse prevention, CGRP therapies, triptans, and non-pharmacological measures.

Keywords: migraine, aura, chronic migraine, medication overuse, family physician, CGRP, headache diary.

Аннотация

Мигрень - рецидивирующее первичное неврологическое заболевание, снижающее функциональную активность и качество жизни. В обзоре изложен доказательный подход первичной помощи к раннему распознаванию, исключению вторичной головной боли, безопасному купированию и профилактике на основе ICHD-3, международных рекомендаций и GBD 2021. Выделены настораживающие признаки, дневники, MIDAS/HIT-6, профилактика лекарственного злоупотребления, CGRP-терапия и триптаны.

Ключевые слова: мигрень, аура, хроническая мигрень, злоупотребление лекарственными препаратами, семейный врач, CGRP, дневник головной боли.

Annotatsiya

Migren - funksional faollik va hayot sifatini pasaytiradigan qaytalanuvchi birlamchi nevrologik kasallik. Sharh ICHD-3, xalqaro tavsiyalar va GBD 2021 asosida birlamchi yordamda erta aniqlash, ikkilamchi bosh og‘rig‘ini istisno qilish, xavfsiz davolash va

profilaktikani yoritadi. Xavf belgilarini baholash, kundalik, MIDAS/HIT-6, dori ortiqcha qo‘llanishining oldini olish, CGRP terapiyasi va triptanlarga urg‘u beriladi.
Kalit so'zlar: migren, aura, surunkali migren, dori vositalarini ortiqcha qo'llash, oilaviy shifokor, CGRP, bosh og'rig'i kundaligi.

Introduction

GBD 2021 estimated global migraine prevalence at 732.56 million cases in 1990 and 1.158 billion in 2021, with rising incidence and DALYs [1]. These population estimates support treating migraine as a disabling condition rather than an ordinary headache. Family physicians are often the first contact. They should apply ICHD-3 while screening for subarachnoid hemorrhage, meningitis, stroke, cerebral venous thrombosis, glaucoma, and other secondary causes [2,5]. The article presents a practical model for early recognition and stepwise primary-care management.

Materials and Methods

This focused narrative review used ICHD-3, AHS neuroimaging guidance, NICE recommendations, CGRP guidance, pharmacotherapy guidance, and GBD 2021 data [1,2,4,5,7,8]. It is not a systematic review or meta-analysis; decisions must be adapted to local protocols, drug access, and specialist assessment.

Pathophysiology and Clinical Phenotypes

Migraine involves trigeminovascular activation, neurogenic inflammation, and CGRP signaling; cortical spreading depression may underlie aura [3]. Phenotypes range from headache alone to reversible visual, sensory, or speech symptoms before an attack. Episodic migraine affects fewer than 15 headache days per month; chronic migraine affects at least 15 days per month for 3 months, with migraine features on at least 8 days [2]. Counting headache days guides treatment.

Diagnosis: ICHD-3 Criteria and Clinical Interview

Migraine without aura usually requires at least five attacks lasting 4–72 hours, with at least two of unilateral location, pulsating quality, moderate/severe intensity, or aggravation by routine activity, plus nausea/vomiting or photophobia and phonophobia [2]. Another disorder must not better explain the symptoms. Migraine with aura consists of fully reversible visual, sensory, or speech symptoms that usually spread gradually and last 5–60 minutes [2]. First-ever aura, persistent focal deficit, or thunderclap headache

requires exclusion of stroke and other emergencies. Record onset, duration, triggers, menstrual cycle, sleep, caffeine, medicines, and medication days. A diary kept for at least 4 weeks links headache frequency with functional impact; MIDAS or HIT-6 standardizes disability.

Red Flags and Differential Diagnosis

Red flags include sudden maximal pain; fever, neck stiffness, altered consciousness, or new neurological deficit; onset after age 50; pregnancy/postpartum status; cancer, immunosuppression, or anticoagulation; positional or exertional pain; trauma; and a changing pattern. Urgent referral and MRI/CT, lumbar puncture, or other tests may be required [5]. Typical, stable migraine with a normal neurological examination and no red flags does not require routine neuroimaging [5]. New, atypical, or progressive headache still requires evaluation; cluster, tension-type, medication-overuse, sinus, glaucoma, and cervicogenic headache remain differential diagnoses.

Acute Treatment

Use an early but safe plan: treat when pain starts after checking contraindications and overuse risk [4,6]. Paracetamol or NSAIDs suit mild/moderate attacks; triptans suit moderate/severe attacks or NSAID failure. Consider antiemetics and non-oral formulations when nausea is prominent. Triptans require individual assessment in ischemic heart disease, previous stroke, or uncontrolled hypertension. Gepants and ditans may be alternatives where available [4]. Opioids and barbiturates are not routine choices because they increase dependence, adverse effects, and medication-overuse risk [6]. Avoid repeated analgesic combinations and record medication days. Medication-overuse risk is high with triptans, opioids, or combination analgesics on ≥10 days/month, or simple analgesics on ≥15 days/month [2].

Preventive Treatment and Individualization

Discuss prevention according to headache days, severity, disability, attack duration, acute-treatment failure or contraindication, and patient preference. At least four migraine days/month is a practical signal, not an absolute threshold; disability should guide the decision [7]. Episodic prevention options are summarized in [7]. Options include CGRP monoclonal antibodies/gepants, topiramate, beta-blockers, amitriptyline, venlafaxine, and candesartan. OnabotulinumtoxinA may be used for chronic migraine [7]. AHS considers

CGRP-targeted therapy a first-line option without mandatory failure of two other classes [7]. Cost, access, comorbidity, and patient risk still matter. Consider pregnancy plans, weight, sleep, mood, blood pressure, asthma, kidney/liver disease, and other comorbidities. Reassess efficacy and adverse effects after 8–12 weeks using the diary and disability measures.

Non-pharmacological Measures

Regular sleep and meals, hydration, tailored aerobic activity, stress management, relaxation, and cognitive-behavioral strategies support prevention. Identify modifiable recurring triggers rather than imposing universal restrictions, and maintain stable limited caffeine intake.

Global Epidemiological Indicators

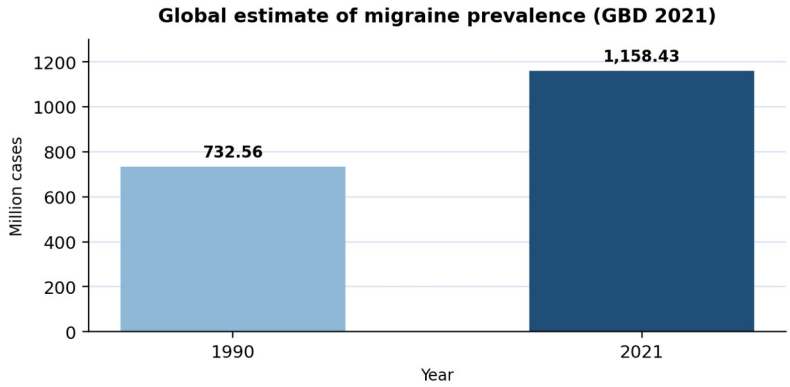

Figure 1. Global estimate of migraine prevalence in 1990 and 2021 (GBD 2021)

Integrated Approach for Family Physicians

Primary-care management requires repeated review and measurable goals, not a one-time prescription. Provide a written attack plan, urgent-care instructions, and a method for counting medication days. At each visit review headache days, MIDAS/HIT-6, acute medication days, and function. The table summarizes the minimum algorithm.

Table 1. Practical algorithm for migraine management in family practice

Stage	Minimum assessment	Practical decision	Risk / note
1. Recognition	History; duration; phenotype; aura; neurological examination.	If ICHD-3 criteria are met, start a diary and written attack plan.	Exclude secondary causes when pain is new or atypical.
2. Risk triage	SNOOP10: thunderclap pain, fever, new deficit, pregnancy/postpartum; malignancy/immunosuppression.	Urgent referral; MRI/CT and other tests when indicated.	No routine imaging for typical stable migraine with normal examination [5].

Stage	Minimum assessment	Practical decision	Risk / note
3. Acute treatment	Severity; nausea; oral medication; cardiovascular risk.	Paracetamol/NSAID; triptan for moderate-severe or NSAID failure; antiemetic/non-oral option.	Avoid routine opioids/barbiturates; check triptan contraindications [4,6].
4. Prevention	Headache days; MIDAS/HIT-6; impact; medication days.	Consider prevention at ≥4 migraine days/month or functional limitation; individualize CGRP, beta-blocker, topiramate, etc. [7].	Pregnancy, comorbidity, cost, and preference guide selection.
5. Follow-up	Diary; adverse effects; pregnancy plans; overuse at 8–12 weeks.	Reassess response; adjust dose; refer if ineffective.	Overuse risk: triptan/combination ≥10 days; simple analgesic ≥15 days/month [2].

Telemedicine and Digital Monitoring

Telemedicine is useful for stable, confirmed migraine to review diaries, adherence, and adverse effects. First-ever worst headache, a new neurological sign, or a new headache during pregnancy requires face-to-face assessment.

Discussion and Limitations

Challenges include delayed diagnosis, self-medication, and late prevention. GBD estimates show global trends, not Uzbekistan-specific prevalence or individual efficacy. CGRP access and cost vary; local clinical judgment and referral pathways remain essential.

Conclusion

Early detection combines ICHD-3 criteria, red-flag exclusion, diaries, MIDAS/HIT-6, and medication-day counts. Use safe acute treatments and individualized CGRP or conventional prevention; avoid opioids, prevent overuse, and refer emergencies promptly.

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