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MALARIA DISEASE AND ITS ETIOLOGY, PATHOPHSIOLOGY AND TREATMENT

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Annotation: *Malaria is a serious parasitic disease in the developing world, causing high morbidity and mortality. The pathogenesis of malaria is complex, and the clinical presentation of disease ranges from severe and complicated, to mild and uncomplicated, to asymptomatic malaria. Despite a wealth of studies on the clinical severity of disease, asymptomatic malaria infections are still poorly understood. Asymptomatic malaria remains a challenge for malaria control programs as it significantly influences transmission dynamics.*

Key words: *malaria, cerebral malaria, breathing problems, organ failure, low blood sugar.*

INTRODUCTION

Malaria is a disease caused by a parasite. The parasite is spread to humans through the bites of infected mosquitoes. People who have malaria usually feel very sick with a high fever and shaking chills. While the disease is uncommon in temperate climates, malaria is still common in tropical and subtropical countries. Each year nearly 290 million people are infected with malaria, and more than 400,000 people die of the disease. To reduce malaria infections, world health programs distribute preventive drugs and insecticide-treated bed nets to protect people from mosquito bites. The World Health Organization has recommended a malaria vaccine for use in children who live in countries with high numbers of malaria cases.

Protective clothing, bed nets and insecticides can protect you while traveling. You also can take preventive medicine before, during and after a trip to a high-risk area. Many malaria parasites have developed resistance to common drugs used to treat the disease.

Signs and symptoms of malaria may include:

- Fever
- Chills
- General feeling of discomfort
- Headache
- Nausea and vomiting
- Diarrhea
- Abdominal pain
- Muscle or joint pain
- Fatigue
- Rapid breathing
- Rapid heart rate
- Cough

Some people who have malaria experience cycles of malaria "attacks". An attack usually starts with shivering and chills, followed by a high fever, followed by sweating and a return to normal temperature.

Malaria signs and symptoms typically begin within a few weeks after being bitten by an infected mosquito. However, some types of malaria parasites can lie dormant in your body for up to a year.

Malaria transmission cycle

Malaria spreads when a mosquito becomes infected with the disease after biting an infected person, and the infected mosquito then bites a noninfected person. The malaria parasites enter that person's bloodstream and travel to the liver. When the parasites mature, they leave the liver and infect red blood cells.

- Uninfected mosquito. A mosquito becomes infected by feeding on a person who has malaria.
- Transmission of parasite. If this mosquito bites you in the future, it can transmit malaria parasites to you.
- In the liver**.** Once the parasites enter your body, they travel to your liver — where some types can lie dormant for as long as a year.
- Into the bloodstream**.** When the parasites mature, they leave the liver and infect your red blood cells. This is when people typically develop malaria symptoms.
- On to the next person. If an uninfected mosquito bites you at this point in the cycle, it will become infected with your malaria parasites and can spread them to the other people it bites.

Malaria deaths are usually related to one or more serious complications, including:

- Cerebral malaria. If parasite-filled blood cells block small blood vessels to your brain (cerebral malaria), swelling of your brain or brain damage may occur. Cerebral malaria may cause seizures and coma.

- Breathing problems. Accumulated fluid in your lungs (pulmonary edema) can make it difficult to breathe.
- Organ failure. Malaria can damage the kidneys or liver or cause the spleen to rupture. Any of these conditions can be life-threatening.
- Anemia. Malaria may result in not having enough red blood cells for an adequate supply of oxygen to your body's tissues (anemia).
- Low blood sugar. Severe forms of malaria can cause low blood sugar (hypoglycemia), as can quinine — a common medication used to combat malaria. Very low blood sugar can result in coma or death.

Prevention

If you live in or are traveling to an area where malaria is common, take steps to avoid mosquito bites. Mosquitoes are most active between dusk and dawn. To protect yourself from mosquito bites, you should:

- Cover your skin. Wear pants and long-sleeved shirts. Tuck in your shirt, and tuck pant legs into socks.
- Apply insect repellent to skin. Use an insect repellent registered with the Environmental Protection Agency on any exposed skin. These include repellents that contain DEET, picaridin, IR3535, oil of lemon eucalyptus (OLE), para-menthane-3,8-diol (PMD) or 2-undecanone. Do not use a spray directly on your face. Do not use products with oil of lemon eucalyptus (OLE) or p-Menthane-3,8-diol (PMD) on children under age 3.
- Apply repellent to clothing. Sprays containing permethrin are safe to apply to clothing.
- Sleep under a net. Bed nets, particularly those treated with insecticides, such as permethrin, help prevent mosquito bites while you are sleeping.

If you'll be traveling to a location where malaria is common, talk to your doctor a few months ahead of time about whether you should take drugs before, during and after your trip to help protect you from malaria parasites.

In conclusion, the drugs taken to prevent malaria are the same drugs used to treat the disease. What drug you take depends on where and how long you are traveling and your own health. The World Health Organization has recommended a malaria vaccine for use in children who live in countries with high numbers of malaria cases. Researchers are continuing to develop and study malaria vaccines to prevent infection.

Reference:

1. Imomaliyevna, B. D. (2024, January). PREVALENCE OF INFECTIOUS DISEASES. In Proceedings of International Conference on Educational Discoveries and Humanities (Vol. 3, No. 2, pp. 164-168).

2. Imomaliyevna, B. D. (2024, January). MEASLES CAUSE SYMPTOMS AND TREATMENT. In Proceedings of International Conference on Modern Science and Scientific Studies (Vol. 3, No. 2, pp. 1-5).
3. Болтабаев, М. У. (2023). КОРОНАВИРУС (COVID-19) ХАМРОҲ КАСАЛЛИК БИЛАН КЕЧГАНДА КАСАЛЛИКДАН КЕЙИНГИ РЕАБЛИТАЦИЯ ДАВРИДА АНИҚЛАНАДИГАН ЎЗГАРИШЛАР ВА УЛАРНИ БАРТАРАФ ЭТИШ ЧОРАЛАРИ. Scientific Impulse, 2(13), 178-182.
4. Boltaboev, A. (2023). HEORETICAL BASIS OF THE DEVELOPMENT OF THE SPATIAL PERSPECTIVE IMAGERY IN THE PERFORMANCE OF PENCIL AND DRAFT IN THE PROCESS OF STUDENT EDUCATIONAL PROCESS. Solution of social problems in management and economy, 2(2), 12-17.
5. Болтабоев, А. М., & Араббоев, М. (2022). COVID-19 АССОЦИРЛАНГАН ОВҚАТ ҲАЗМ ҚИЛИШ ТИЗИМИ КАСАЛЛИКЛАРИ ЭПИДЕМИОЛОГИЯСИ ВА COVID-19 БИЛАН КАСАЛЛАНГАН БЕМОРЛАРДА КОМПЮТЕР ТОМОГРАФИЯСИ. Journal of new century innovations, 11(2), 58-69.
6. Kamalovich, S. I., & Nematovna, E. G. (2022). LASER THERAPY IN PEDIATRIC SURGERY. EDITORIAL BOARD, 155.
7. Sharapov, I. (2023). MODERN METHODS OF SURGICAL TREATMENT OF GASTRIC ULCER AND DUODENAL ULCER. Евразийский журнал медицинских и естественных наук, 3(1 Part 1), 42-48.
8. Kamalovich, S. I. (2022). Modern Methods of Surgical Treatment of Gastric Ulcer and Duodenal Ulcer. Texas Journal of Medical Science, 15, 91-95.
9. Sharapov, I. K. (2024). CONGENITAL ESOPHAGEAL DEFECTS IN CHILDREN. Analysis of world scientific views International Scientific Journal, 2(1), 107-112.
10. Kamalovich, S. I. (2023). Congenital Esophageal Defects in Children. Research Journal of Trauma and Disability Studies, 2(12), 180-184.
11. Шарапов, И. К., & Мамасаидов, Ж. Т. ГИГИЕНИЧЕСКАЯ ХАРАКТЕРИСТИКА УСЛОВИЙ ТРУДА С СООТВЕТСТВИЕМ ФОЗАЛОН И БАТОН ЕС ПЕСТИЦИДАМ САДОВОДОВ.
12. Baxromovna, MS (2024). INFEKTSION KASALLIKLAR, ULARNI YOQATGAN OMILLAR. Amerika pediatriya tibbiyoti va sog'liqni saqlash fanlari jurnali (2993-2149) , 2 (2), 399-405.
13. Мухидинова, Ш. Б. ГИПЕРЭНДЕМИЧЕСКИЕ ОЧАГИ ГЕЛЬМИНТОЗОВ И ЭПИДЕМИОЛОГИЧЕСКАЯ СИТУАЦИИ.

14. Baxramovna, M. S. (2022). Lyamblioz Fonida Covid-19 Kasalligining Kliniko-Epidemiologik Xususiyatlari. Barqarorlik Va Yetakchi Tadqiqotlar Onlayn Ilmiy Jurnali, 2(1), 194-196.
15. Мухидинова, Ш. Б. (2018). О пораженности населения Ферганской области глистными инвазиями. Биология и интегративная медицина, (4), 33-38.
16. Isroilov, M. S. (2021). A new approach to the treatment of chronic constipation and diagnosed dysbacteriosis in children with dolichosigma. ACADEMICIA: An International Multidisciplinary Research Journal, 11(9), 520-525.
17. Nishonov, Y. N., Mamasaidov, J. T., & Isroilov, M. S. (2021). Application of new conservative methods in the treatment of complications of dolichosigma in children. Asian Journal Of Multidimensional Research, 10(6), 321-327.
18. Ermatov, N. J., Nishonov, Y. N., Mamasaidov, J. T., & Isroilov, M. S. (2022). MORPHOLOGICAL INDICATIONS OF THE EFFICACY OF A CONSERVATIVE APPROACH TO THE TREATMENT OF DOLICHOSIGMIA IN CHILDREN. Art of Medicine. International Medical Scientific Journal, 2(3).
19. Isroilov, M. (2022). The system of education and its interaction with the concept of spirituality. Asian Journal of Multidimensional Research, 11(1), 88-93.
20. Ismailov, D. (2024). PATHOPHYSIOLOGY OF COMPLICATIONS OF TYPE 1 DIABETES MELLITUS. Академические исследования в современной науке, 3(5), 153-156.
21. Ismolilov Diyorbek. (2022). Glucocorticoids for COVID-19. European Multidisciplinary Journal of Modern Science, 6, 219–224. Retrieved from https://emjms.academicjournal.io/index.php/emjms/article/view/376
22. Ismailov, D. (2024). COMPLICATIONS OF TYPE 1 DIABETES. Академические исследования в современной науке, 3(5), 157-160.
23. Diyorbek, I. (2023). QANDLI DIABETNING OLDINI OLISH BO ‘YICHA SO ‘ROVNOMA. Scientific Impulse, 1(10), 945-949.
24. Diyorbek, I. . (2022). Diabetes Prevention Knowledge Survey. International Journal of Discoveries and Innovations in Applied Sciences, 2(10), 15–19.
25. Каримова, М. М., Содиков, Ю. Т., Юсупова, М. М., & Мухаммадсодиков, М. М. (2022). Covid-19 o’tkazgan bemorlarda qalqonsimon bez xolatini taxlil qilish. Журнал кардиореспираторных исследований, 3(1).

26. Алимова, Н. У., & Мухамадсадиков, М. М. (2022). Оценка Современных Методов Диагностики И Лечения Врождённого Гипотиреоза. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 1(6), 62-75.
27. Каримова, М. М., Содиков, Ю. Т., Юсупова, М. М., & Мухаммадсодиков, М. М. (2022). АНАЛИЗ СОСТОЯНИЯ ЩИТОВИДНОЙ ЖЕЛЕЗЫ У ПАЦИЕНТОВ, ПЕРЕНЕСШИХ COVID-19. Journal of cardiorespiratory research, 1(1), 44-46.
28. Shukhratjonovich, S. E. (2023). TREATMENT OF PATIENTS WITH CHRONIC RECURRENT CYSTITIS WITH A DRUG BASED ON BACTERIOPHAGES. Best Journal of Innovation in Science, Research and Development, 2(10), 541-544.
29. Shukhratjon, S. E. (2023). UROLITHIASIS DISEASE. World Bulletin of Public Health, 27, 35-36.