LETTER TO THE EDITOR

Introduction of the first antimalarial vaccine: A step towards Malaria eradication?

Abyaz Asmar, Hareem Farooq, Muhammad Aemaz Ur Rehman

Madam, malaria is a potentially fatal parasitic infection caused by Plasmodium species. It presents with a various nonspecific clinical symptoms ranging from mild febrile illness to severe organ damage.[1] Life-threatening complications like cerebral malaria, renal failure, circulatory shock, and acute respiratory distress may also occur, most commonly due to Plasmodium Falciparum species.[1] Despite extensive research and new treatment guidelines, malaria is still reported to be endemic in around 100 countries, with almost 50% of the world's population at risk.[1,2] Moreover, it is responsible for about 409 thousand deaths per year, with the majority being caused by the Falciparum strain.[2] The treatment of malaria is limited by drug resistance, and the lack of universally effective drugs makes the situation all the more challenging.[1]

In early October, the World Health Organization (WHO) made the historic recommendation of RTS, S/AS01 (RTS,S) malaria vaccine against P. falciparum, for children in moderate to high transmission areas.[3] Many malaria cases over a 3-4 year period were prevented by the vaccine as per the results of phase 3 trials conducted in Africa.[4] With the help of national ministries, a pilot programme is currently underway (2019-2023) in Ghana, Kenya, and Malawi.[5] The encouraging preliminary results of this programme have led to the guidelines regarding the widespread use of the vaccine.[3]

Outside tropical Africa, 80% of malaria cases are reportedly found in Asia.[1] With 3.5 million suspected and confirmed annual malaria cases, Pakistan is listed as a moderate malaria-endemic country where 60% of the population is at risk of developing the disease.[6] Hence, in addition to the proper implementation of pre-existing prevention and treatment strategies against malaria, developing a national vaccine programme is the need of the hour. It is a chance for the health sector of Pakistan to collaborate with WHO towards the implementation of this programme. The focus should primarily be on high prevalence regions, such as tribal areas and areas affected most by seasonal variation. The introduction of this vaccine is a groundbreaking step towards the global eradication of malaria and is even more important for developing countries like Pakistan where malaria causes an increased burden on healthcare resources and the economy. Given the extremely encouraging results from trials, it is projected to significantly decrease morbidity and mortality, especially in children.

Disclaimer: None to declare.

Conflict of Interest: None to declare.

Funding Sources: None to declare.

References

1. Garcia LS. Malaria. Clin Lab Med 2010;30:93-129. doi: 10.1016/j.cll.2009.10.001.
2. World Health Organization (WHO). Malaria. News release. The WHO Media Center. [Online] 2021 [Cited 2021 October 23]. Available from URL: https://www.who.int/news-room/fact-sheets/detail/malaria
3. World Health Organization (WHO). WHO recommends groundbreaking malaria vaccine for children at risk. News release. The WHO Media Center. [Online] 2021 [Cited 2021 October 23]. Available from URL: https://www.who.int/news/item/06-10-2021-who-recommends-groundbreaking-malaria-vaccine-for-children-at-risk
4. RTS,S Clinical Trials Partnership. Efficacy and safety of RTS,S/AS01 malaria vaccine with or without a booster dose in infants and children in Africa: final results of a phase 3, individually randomised, controlled trial. Lancet 2015;386:31-45. doi: 10.1016/S0140-6736(15)60721-8.
5. Adepoju P. RTS,S malaria vaccine pilots in three African countries. Lancet 2019;393:1685. doi: 10.1016/S0140-6736(19)30937-7.
6. Qureshi NA, Fatima H, Afzal M, Khattak AA, Nawaz MA. Occurrence and seasonal variation of human Plasmodium infection in Punjab Province, Pakistan. BMC Infect Dis 2019;19:935. doi: 10.1186/s12879-019-4590-2.

Department of Medicine, Mayo Hospital, King Edward Medical University, Lahore, Pakistan.

Correspondence: Muhammad Aemaz Ur Rehman. Email: aemaz100@gmail.com

DOI: https://doi.org/10.47391/JPMA.5243