GSK’s malaria vaccine Mosquirix likely to gain positive EMA scientific opinion – experts

GlaxoSmithKline’s (LON:GSK) malaria vaccine Mosquirix (RTS,S) is likely to gain the positive EMA scientific opinion required for WHO recommendation, experts said. Despite clinical efficacy being lower than expected from a vaccine, the clinical need justifies an approval based on positive data, they added.

Mosquirix is a recombinant protein-based vaccine which contains Agenus’ (NASDAQ:AGEN) QS-21 Stimulon adjuvant and is designed to trigger the immune system to defend against the Plasmodium falciparum malaria parasite.

Mosquirix will be submitted in 2014 to the EMA under article 58 in order to gain the positive scientific opinion required to be recommended by the WHO, said Carla Botting, director of product development and access, PATH Malaria Vaccine Initiative, which is collaborating with GSK on trials. A GSK spokesperson confirmed this. Article 58 is designed for products that have medical need which may not be used in Europe, said Botting, noting that in order to be approved by the WHO, the vaccine needs to gain approval in the country of manufacture, which is Belgium.

While there is no specific timeframe for this process, the WHO has indicated that a policy recommendation for the RTS,S malaria vaccine candidate is possible as early as 2015 and decisions by African nations regarding large-scale implementation of the vaccine through their national immunisation programmes from 2015/2016, according to the spokesperson.

Phase III data in infants aged six to 12 weeks showed vaccine efficacy against all clinical malaria episodes was 32.9% (The RTS,S Clinical Trials Partnership. N Engl J Med 2012; 367:2284-2295) and in children aged five to 17 months efficacy against all clinical malaria episodes was 55.1% (The RTS,S Clinical Trials Partnership. N Engl J Med 2011; 365:1863-1875). In both studies efficacy was higher at the beginning than at the end of the 12 month follow-up period. Serious adverse events were seen in 17.9% and 17.6% of participants, respectively, and the most common side effects were injection site pain and fever.

The requirements for a positive scientific opinion involve the same rigour as any vaccine which is filing for approval, Botting said, noting the importance of an acceptable risk-benefit profile.

Mosquirix does not work nearly as well as any other infectious disease vaccines where efficacy is often more than 90%, however, there has never been a vaccine for parasitic infection so the threshold for approval may be lower, said Dr Philip Rosenthal, professor of medicine, University of California, San Francisco. Regulators may be looking to fast-track approval of a malaria vaccine given the global importance and clinical need, added Dr Karl Hess, Associate Professor of Pharmacy Practice and Administration, College of Pharmacy, Western University of Health Sciences, California.

Given the severe burden of malaria and rates of mortality in African populations, the modest efficacy seen in trials would be sufficient for approval as it is still enough to protect populations at risk, added Hess and Dr Daniel Neafsey, department of Immunology and Infectious Diseases, Harvard School of Public Health, Boston.

The spokesperson said that while there is some decline in vaccine efficacy over time, when you consider the scale of malaria, these reductions are meaningful.

From a safety standpoint there should be no objections as the tolerability profile is well established from numerous Phase II and III trials, a US-based malaria expert said, adding Mosquirix data should be acceptable for approval in young children at risk of malaria. Data does not suggest any pressing issues in terms of safety and should not pose a barrier to approval, added Hess. Safety will not be an issue as side effects were mostly mild systemic symptoms which were transient, agreed Dr Davidson Hamer, Professor of International Health and Medicine, Boston University School of Public Health and School of Medicine. Approval will be mainly based on risk-benefit assessment and there are no serious safety concerns related to Mosquirix’s use which could delay approval, agreed Rosenthal. Approval is likely as it will be based on Mosquirix’s clear safety and tolerability profile, and any evidence of efficacy should suffice, added Hess and Dr Stephen Hoffman, CEO of Sanaria, a company developing a vaccine to eradicate malaria.

As well as an acceptable safety profile, regulators will be looking for data to suggest Mosquirix confers a useful degree of efficacy and this has consistently been shown in trials, added Neafsey.

Based on available data, regulators should approve use in young children, and may request further studies in pregnant women or those with immune system deficiencies such as HIV, added Hamer.

GSK has a market cap of GBP 75.6bn (EUR 95.2bn).

by Jinan Harb in London

About Jinan Harb

Email the journalist team at editorialfeedback@biopharminsight.com