Mothers who are treated for malaria may pass on lower levels of natural immunity to their young, animal studies show

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Scientists investigated the impact of anti-malarial drugs on the levels of antibodies passed from female mice to their offspring. This helps protect the young from disease in the first months of life.

Female mice which had been treated with drugs for a malaria infection before becoming pregnant passed on fewer anti-malarial antibodies to their young. These are transferred in the womb and via the mother's milk.

Scientists say being exposed to a full-blown bout of malaria may give the mother's immune system the chance to produce protective antibodies to pass on to offspring.Drug treatment cuts this process short.

Researchers say their results highlight the need to look at how treatment might be tailored most effectively for women and their babies. It could have important implications for public health in areas where malaria is prevalent.

Malaria affects millions of people, mainly in developing countries, and in Africa the disease kills one child every minute. Scientists studied babies born to mice which had been exposed to malaria, some of which had been given drugs to treat their infection.

They found that female mice which had been treated with drugs had babies that were 25 per cent more likely to die of the disease than offspring from mothers which had experienced full-blown malaria. Female mice that had not been treated for malaria gave birth to newborns with a 75 per cent lower risk of malaria death compared with babies from females which had not been infected.

Researchers say their discovery suggests a trade-off between the health of mothers and infants. It gives valuable insight into how drug treatments affect immunity passed from one generation to the next.

The study, published in Proceedings of the Royal Society B, was funded by the Wellcome Trust and the Royal Society.

Science news reference:

Drug treatment of malaria infections can reduce levels of protection transferred to offspring via maternal immunity. Vincent Staszewski, Sarah E. Reece, Aidan J. O'Donnell, and Emma J. A. Cunningham. Proc. R. Soc. B rspb20111563; published ahead of print February 22, 2012, doi:10.1098/rspb.2011.1563

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