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Monkeypox infection during pregnancy: European registry to quantify maternal and fetal risks

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This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process which may lead to differences between this version and the [Version of Record](#). Please cite this article as doi: [10.1002/uog.26031](https://doi.org/10.1002/uog.26031)

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Accepted Article

On May 21, 2022, the WHO declared an outbreak of monkeypox in several regions of the world, including Europe. Monkeypox is a known neglected disease rather than a new virus, but its emergence in west and central Africa might be the tip of a larger iceberg¹. Although monkeypox has been described as a moderate disease in most cases, its case-fatality rate seems to range between 3% and 11%^{1,2} and could be higher in vulnerable groups, such as immunocompromised patients, children and pregnant individuals. A report on maternal and fetal outcomes after exposure during pregnancy showed a 25% risk of severe maternal illness³ (1/4 cases reported) and up to 75% risk of adverse fetal outcome³: miscarriage (2/2 cases reported in the first trimester) and intrauterine fetal demise with congenital dermal lesions after maternal-fetal transmission (1/2 case reported in the midtrimester). Neonatal demise after a rash potentially related to congenital monkeypox has also been reported⁴. More broadly, smallpox is generally more severe in pregnant individuals, with a 7-fold increased risk of severe hemorrhagic disease compared with non-pregnant adults⁵; the rates of adverse obstetric outcome (spontaneous abortion, stillbirth and preterm delivery) could be increased⁶, and congenital syndromes have been described.

As this neglected virus is spreading in Europe and may represent a threat for pregnant women and their fetuses, it seems paramount to collect and centralize data to quickly quantify the risk associated with exposure during pregnancy. We have therefore adapted our registry for emergent viruses and pregnancy to accommodate monkeypox⁷, including specific variables related to maternal disease, according to the WHO clinical severity score⁴ as well as therapeutic options, including tecovirimat, cidofovir (recommended only in critically ill pregnant women, due to potential teratogenicity), hyper immune globulin and smallpox vaccine, and antibiotics to prevent bacterial superinfection (amoxicillin and chloramphenicol via eye drops). We have also added specific variables to fetal and neonatal follow-up to document potential skin lesions. The complete case report form is available in Appendix S1.

The maternal, fetal and neonatal outcomes follow-up form after vaccination used for COVI-Preg can also be used to monitor the safety and effectiveness of monkeypox vaccines during pregnancy⁸.

In recent epidemics, both clinicians and researchers have often been overwhelmed, which has prevented the development of prospective and standardized tools to adequately monitor and quantify the risks associated with the new pathogen while taking precautions to mitigate potential selection bias and confounders. Offering this registry to all health professionals implicated in this new epidemic will allow them to have rapid access to a secure database to collect coded data on their patients and will reinforce data sharing between teams^{8,9}. Early access to this tool could be essential to estimate the risk of maternal and fetal / neonatal adverse outcomes, which are currently unquantifiable¹⁰. Anyone interested can contact us at: pox-preg@chuv.ch.

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