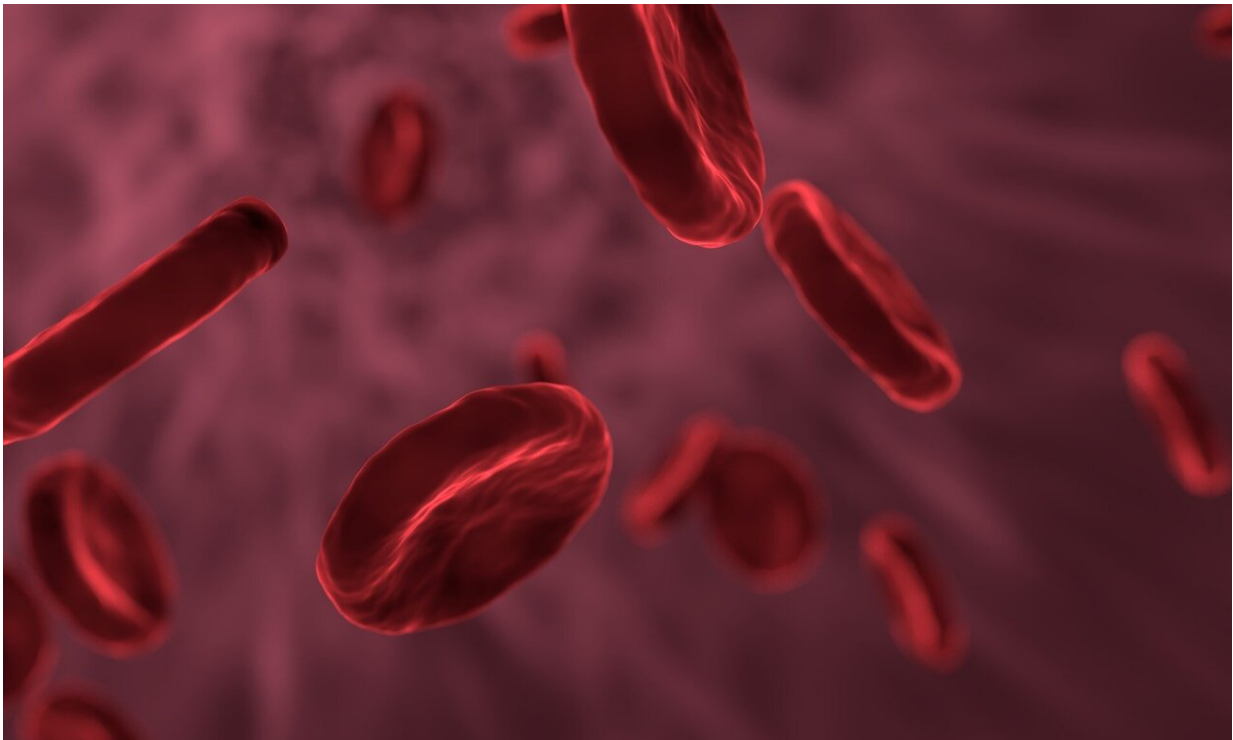


Immune and clotting components in blood could contribute to psychosis

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A scientific review has found evidence that a disruption in blood clotting and the first line immune system could be contributing factors in the development of psychosis.

The article, a joint collaborative effort by researchers at RCSI

University of Medicine and Health Sciences, Cardiff University and the UCD Conway Institute, is published in *Molecular Psychiatry*.

Recent studies have identified blood proteins involved in the innate [immune system](#) and blood clotting networks as key players implicated in psychosis.

The researchers analyzed these studies and developed a new theory that proposes the imbalance of both of these systems leads to inflammation, which in turn contributes to the development of psychosis.

The work proposes that alterations in immune defense mechanisms—including [blood clotting](#)—lead to an increased risk of inflammation, which is thought to contribute to the development of psychosis.

The new theory further refines the prevailing 'two-hit' hypothesis, where early genetic and/or [environmental factors](#) disrupt the developing central nervous system (the "first-hit") and increases the vulnerability of the individual to subsequent, late environmental disruptions (the "second-hit").

"Early identification and treatment significantly improves clinical outcomes of psychotic disorders. Our theory may provide a further step to biomarkers of psychosis and allow the identification of therapeutic targets for early and more [effective treatment](#)," said Dr. Melanie Föcking, joint first author on the paper and Lecturer in Psychiatric Neuroscience at RCSI Department of Psychiatry.

"While the idea of psychosis resulting from some form of inflammation and immune activation is not new, our data suggest a new understanding and change of focus towards a combined function of the innate immune complement system and coagulation pathways to the progression to

psychotic disorder," said Dr. Meike Heurich, joint first author on the paper and lecturer at School of Pharmacy and Pharmaceutical Sciences, Cardiff University.

"The works builds on our recent studies which increasingly implicate dysregulation of the complement and coagulation pathways both in and preceding psychotic disorder," said Professor David Cotter, senior author of the paper and Professor of Molecular Psychiatry at RCSI Department of Psychiatry.

More information: Meike Heurich et al, Dysregulation of complement and coagulation pathways: emerging mechanisms in the development of psychosis, *Molecular Psychiatry* (2021). [DOI: 10.1038/s41380-021-01197-9](https://doi.org/10.1038/s41380-021-01197-9)

Provided by RCSI

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