



€320,000 for German-Ukrainian research project: Clinically relevant virus reactivations due to war-related physical and psychological stress

More than 1000 days of war! The Russian war of aggression is causing the Ukrainian population enormous physical and psychological stress. An often neglected but very serious medical problem induced by stress is the reactivation of chronic viruses. We all harbour chronic viruses, especially herpes viruses, which normally do not cause disease if the immune defence is efficient. However, severe or prolonged stress compromises our immune defences until they eventually fail. Some herpes viruses cause serious illness when reactivated. These diseases can either be acutely life-threatening, as in the case of CMV, or cause long-lasting, painful illness, as in the case of HSV-1 and VZV. VZV reactivation, for example, causes herpes zoster (shingles), which can be associated with chronic pain and long-term incapacity to work.

In addition, the reactivation of the viruses themselves threatens mental health, which represents a vicious circle for patients. It is not yet known which threats lead to virus reactivation in a war situation. Are injuries, fighting on the front line, displacement or the constant fear of air strikes relevant triggers? This knowledge is important in order to prevent virus reactivations with vaccinations or to treat them with medication and thus protect vulnerable groups from the high burden.

As part of the Clinical Partnerships programme of the Gesellschaft für Internationale Zusammenarbeit GIZ, a research team from the Institute of Virology, University Hospital Essen, in cooperation with the Poltava State Medical University PSMU, will now receive further funding of €320,000 from December 2024.

In 2023 and 2024, laboratory diagnostics for viruses and bacteria have already been successfully established in Poltava through a GIZ-funded emergency aid project Essen-Poltava. The research project can now build on this. Questionnaires and hair samples will be used to define stress levels in refugees and wounded people. Blood samples will then be used to analyse immunity and virus reactivations in various cohorts within the established Essen-Poltava hospital partnership.

The activities in detail (summary):

- Determination of the stress level (using questionnaires) in different cohorts
- Analysis of samples in Essen and Poltava. Analysis of immunity and virus reactivations within the framework of the network already established in Poltava and the equipment available there
- Special training of diagnostic staff from Poltava
- Capacity building in teaching and clinical research
- Collection of research data, definition of target groups
- Determination of required drugs and vaccines
- Support in the provision of suitable treatments and vaccinations



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