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## A SYSTEMATIC REVIEW OF AUTOPSY FINDINGS IN DEATHS AFTER COVID-19 VACCINATION

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## **ABSTRACT**

**Background:** The rapid development and widespread deployment of COVID-19 vaccines, combined with a high number of adverse event reports, have led to concerns over possible mechanisms of injury including systemic lipid nanoparticle (LNP) and mRNA distribution, spike protein-associated tissue damage, thrombogenicity, immune system dysfunction, and carcinogenicity. The aim of this systematic review is to investigate possible causal links between COVID-19 vaccine administration and death using autopsies and post-mortem analysis.

**Methods:** We searched for all published autopsy and necropsy reports relating to COVID-19 vaccination up until May 18<sup>th</sup>, 2023. We initially identified 678 studies and, after screening for our inclusion criteria, included 44 papers that contained 325 autopsy cases and one necropsy case. Three physicians independently reviewed all deaths and determined whether COVID-19 vaccination was the direct cause or contributed significantly to death.

**Findings:** The most implicated organ system in COVID-19 vaccine-associated death was the cardiovascular system (53%), followed by the hematological system (17%), the respiratory system (8%), and multiple organ systems (7%). Three or more organ systems were affected in 21 cases. The mean time from vaccination to death was 14.3 days. Most deaths occurred within a week from last vaccine administration. A total of 240 deaths (73.9%) were independently adjudicated as directly due to or significantly contributed to by COVID-19 vaccination.

**Interpretation:** The consistency seen among cases in this review with known COVID-19 vaccine adverse events, their mechanisms, and related excess death, coupled with autopsy confirmation and physician-led death adjudication, suggests there is a high likelihood of a causal link between COVID-19 vaccines and death in most

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