

Acute cardiac events in hospitalized elderly adults with respiratory syncytial virus infection

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Dear Editor, Hospitalised patients aged more than 50 years are at high risk of developing an acute cardiac event if infected with respiratory syncytial virus, leading to serious clinical complications.¹ Due to heart failure, the older aged population can die within a year. This letter highlights the relationship between Acute Cardiac Events in Aged population and RSV.

Respiratory syncytial virus (RSV) typically leads to serious lower respiratory tract infections and acute cardiac events in older adults. Examples include acute heart failure, hypertensive crisis, ventricular tachycardia, and cardiogenic shock. Recent findings show that among older adults, mostly ≥ 60 , the incidence rate of RSV is estimated to be 600.7 cases per 100,000 person-years.² According to a systemic review around 79% of RSV-related hospitalizations and 93% of RSV-related deaths in adults occur in those above 65 years of ages with chronic lung and cardiac diseases in the MENA region which extends from the North African Atlantic coast to the Indus River in Pakistan.³

The RSV-Associated Hospitalization Surveillance Network (RSV-NET) analysed data from hospitalized adults aged ≥ 50 with RSV infection across 38 counties in 9 states.

Among 3959 adults, 20.8% experienced acute cardiac events, notably acute heart failure (14.3%). Another study examined RSV cases in adults ≥ 50 across 12 states over 5 seasons. Among 6248 hospitalized adults, 22.4% experienced cardiac events, including acute heart failure (15.8%), acute ischaemic heart disease (7.5%), and cardiogenic shock (0.6%).¹ Another, German study (2015-2019) found RSV attributed to 2–3% of cardiorespiratory hospitalizations in adults ≥ 60 . The pathophysiology of RSV causing cardiac events involves direct myocardial injury

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causing myocarditis, increased atherogenic pro-inflammatory cytokines including interleukin (IL)-6, IL-1 β , and tumour necrosis factor-alpha and exacerbation of pre-existing cardiovascular conditions by suppression of T helper cells. Physiological stress from the illness may imbalance oxygen supply and demand, indirectly provoking adverse cardiovascular events.⁴ A study shows that 1/4th of hospitalized patients over 50 with RSV experience acute cardiac events without prior cardiac disease.¹ RSV worsens cardiopulmonary conditions, necessitating continuous monitoring in older patients to manage high mortality rates. Health professionals must recognize RSV's severity for effective management. Without definitive treatment, supportive care like oxygen therapy and rehydration is essential. Aerosolized ribavirin treats severe cases in immunocompromised patients.⁵ Emerging RSV vaccines may prevent cardiovascular complications and have shown promising results.

The article highlights RSV's pathophysiology and cardiovascular impact, particularly in older adults, supported by epidemiological statistics. It calls for improved prevention and management, emphasizing global risks and urging health organizations to act. Without intervention, RSV-related cardiac events will show continuously raised prevalence in the aged population.

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