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**Quantifying the long-term effects of measles infection
—a retrospective cohort study**

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Quantifying the long-term effects of measles infection—a retrospective cohort study

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Background

Measles is a highly contagious viral infection that can cause acute illness and long-term immune modulation. Emerging evidence suggests measles-induced immune suppression may increase susceptibility to subsequent non-measles infectious diseases beyond the acute phase.

Ecological studies suggest measles infection may increase long-term susceptibility to non-measles, particularly viral, infections; however, robust individual-level longitudinal evidence remains limited.

knowledge gap

Retrospective matched cohort evidence quantifying long-term risks of all-cause and viral infections after measles remains limited.

This retrospective matched cohort study evaluated whether prior measles increases risk of subsequent non-measles and viral infections within two years.

This retrospective matched cohort study included 532 measles patients matched to 2,128 controls without prior measles. Adjusted odds ratios for all-cause and viral infections within two years were estimated using conditional logistic regression, and hazard ratios were calculated using Cox proportional hazards models.

Prior measles exposure was associated with increased risk of all-cause non-measles infections (OR 1.83, 95% CI 1.26–2.64; $p < 0.001$) and viral infections (OR 1.23, 95% CI 1.01–1.59; $p < 0.05$). The hazard ratio for viral diagnoses was 1.54 (95% CI 1.18–2.02; $p < 0.001$), indicating sustained post-measles immune vulnerability.

This individual-level evidence reinforces concerns that measles may cause prolonged immune vulnerability. The findings highlight the critical public health importance of measles vaccination, not only to prevent acute disease but also to reduce longer-term susceptibility to other infectious illnesses.

Implications

specific background

Here We Show

Results & Interpretation