

## Medline ® Abstracts for References 119-122 of 'Epidemiology, clinical manifestations, and treatment of cytomegalovirus infection in immunocompetent adults'

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**119** [PubMed](#)

TI Cytomegalovirus antibody levels, inflammation, and mortality among elderly Latinos over 9 years of follow-up.

AU Roberts ET, Haan MN, Dowd JB, Aiello AE

SO Am J Epidemiol. 2010;172(4):363. Epub 2010 Jul 21.

This study examined the relation between immune response to cytomegalovirus (CMV) and all-cause and cardiovascular disease (CVD) mortality, and possible mediating mechanisms. Data were derived from the Sacramento Area Latino Study on Aging, a population-based study of older Latinos (aged 60-101 years) in California followed in 1998-2008. CMV immunoglobulin G (IgG), tumor necrosis factor, and interleukin-6 were assayed from baseline blood draws. Data on all-cause and CVD mortality were abstracted from death certificates. Analyses included 1,468 of 1,789 participants. For individuals with CMV IgG antibody titers in the highest quartile compared with lower quartiles, fully adjusted models showed that all-cause mortality was 1.43 times (95% confidence interval: 1.14, 1.79) higher over 9 years. In fully adjusted models, the hazard of CVD mortality was also elevated (hazard ratio = 1.35, 95% confidence interval: 1.01, 1.80). A composite measure of tumor necrosis factor and interleukin-6 mediated a substantial proportion of the association between CMV and all-cause (18.9%,  $P < 0.001$ ) and CVD (29.0%,  $P = 0.02$ ) mortality. This study is the first known to show that high CMV IgG antibody levels are significantly related to mortality and that the relation is largely mediated by interleukin-6 and tumor necrosis factor. Further studies investigating methods for reducing IgG antibody response to CMV are warranted.

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PMID [20660122](#)

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**120** [PubMed](#)

TI Cytomegalovirus infection and the risk of mortality and frailty in older women: a prospective observational cohort study.

AU Wang GC, Kao WH, Murakami P, Xue QL, Chiou RB, Detrick B, McDyer JF, Semba RD, Casolaro V, Walston JD, Fried LP

SO Am J Epidemiol. 2010 May;171(10):1144-52. Epub 2010 Apr 16.

Cytomegalovirus (CMV), a prevalent pathogen, causes severe disease in immunocompromised humans. However, present understanding is limited regarding the long-term clinical effect of persistent CMV infection in immunocompetent adults. The authors conducted a prospective observational cohort study (1992-2002) of 635 community-dwelling women in Baltimore, Maryland, aged 70-79 years in the Women's Health and Aging Studies to examine the effect of CMV infection on the risk of frailty, a common geriatric syndrome, and mortality in older women. The effect of baseline serum CMV antibody (immunoglobulin G) concentration on the risk of 3-year incident frailty, defined by using a 5-component measure, and 5-year mortality was examined with Cox proportional hazards models. Compared with those who were CMV seronegative, women in the highest quartile of CMV antibody concentration had a greater incidence of frailty (hazard ratio = 3.46, 95% confidence interval: 1.45, 8.27) and mortality (hazard ratio = 3.81, 95% confidence interval: 1.64, 8.83). After adjustment for potential confounders, CMV antibody concentration in the highest quartile independently increased the risk of 5-year mortality (hazard ratio = 2.79, 95% confidence interval: 1.22, 6.40). Better understanding of the long-term clinical consequences of CMV infection in immunocompetent humans is needed to guide public health efforts for this widely prevalent infection.

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PMID [20400465](#)

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**121** PubMed

TI Cytomegalovirus antibody level and mortality among community-dwelling older adults with stable cardiovascular disease.

AU Strandberg TE, Pitkala KH, Tilvis RS

SO JAMA. 2009 Jan;301(4):380-2.

AD [19176439](#)

PMID

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**122** PubMed

TI Seropositivity and higher immunoglobulin g antibody levels against cytomegalovirus are associated with mortality in the population-based European prospective investigation of Cancer-Norfolk cohort.

AU Gkrania-Klotsas E, Langenberg C, Sharp SJ, Luben R, Khaw KT, Wareham NJ

SO Clin Infect Dis. 2013;56(10):1421. Epub 2013 Feb 26.

**BACKGROUND:** The relationship between cytomegalovirus (CMV) infection and mortality among immunocompetent individuals is uncertain. We aimed to examine whether seropositivity for CMV and the level of CMV immunoglobulin G (IgG) antibody are associated with all-cause and cause-specific mortality.

**METHODS:** We used data from a random sample of 13 090 participants aged 40-79 years at recruitment in 1993-1997 to the European Prospective Investigation of Cancer-Norfolk population-based cohort study. We measured baseline IgG antibody levels against CMV. Death certificates were obtained for all participants who died before 31 March 2011. Codes for the underlying cause of death were used to investigate cause-specific mortality.

**RESULTS:** A total of 2514 deaths occurred during a mean follow-up of 14.3 years (SD, 3.3 years). Compared to seronegative participants (age- and sex-adjusted mortality rate, 12.4 [95% confidence interval {CI}, 11.3-13.2] per 1000 person-years at risk), rates increased across thirds of IgG antibody levels (score test of trend  $P < .0001$ ). CMV seropositivity (prevalence 59%) was associated with increased all-cause mortality (age- and sex-adjusted hazard ratio [HR], 1.16 [95% CI, 1.07-1.26]), similarly in men and women ( $P$  for interaction = .52). The association persisted after additionally adjusting for measures of socioeconomic status and possible confounders. Cause-specific analyses suggested that increased mortality from cardiovascular disease (HR, 1.06 [95% CI, .91-1.24]), cancer (HR, 1.13 [95% CI, .98-1.31]), and other causes (HR, 1.23 [95% CI, 1.04-1.47]) all appeared to contribute to the overall associations.

**CONCLUSIONS:** Seropositivity and higher IgG antibody levels against CMV are associated with increased mortality and after adjustment for a range of potential confounders in the general population.

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