Tuberculosis in elderly Hispanics: BCG vaccination at birth is protective whereas diabetes is not a risk factor

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Abstract

Background. Aging increases the risk of tuberculosis (TB) and its adverse outcomes, but most studies are based on secondary analyses, and few are in Hispanics. Diabetes is a risk factor for TB in adults, but its contribution in the elderly is unknown. We aimed to identify the role of diabetes and other risk factors for TB in elderly Hispanics.

Methods. Cross-sectional study among newly-diagnosed TB patients, recent contacts (ReC), or community controls (CoC) totaling 646 participants, including 183 elderly (>60 years; 43 TB, 80 ReC, 60 CoC) and 463 adults (18 to 50 years; 80 TB, 301 ReC and 82 CoC). Host characteristics associated with TB and latent *Mycobacterium tuberculosis* infection (LTBI) were identified in the elderly by univariable and confirmed by multivariable logistic regression.

Results. LTBI was more prevalent among the elderly CoC (55% *vs.* 23.2% in adults; p<0.001), but not in ReC (elderly 71.3% *vs.* adult 63.8%); p=0.213). Risk factors for TB in the elderly included male sex (adj-OR 4.33, 95% CI 1.76, 10.65), smoking (adj-OR 2.55, 95% CI 1.01, 6.45) and low BMI (adj-OR 12.34, 95% CI 4.44, 34.33). Unexpectedly, diabetes was not associated with TB despite its high prevalence (adj-OR 0.38, 95% CI 0.06, 2.38), and BCG vaccination at birth was protective (adj-OR 0.16, 95% CI 0.06, 0.45).

Conclusions. We report novel distinctions in TB risk factors in the elderly *vs.* adults, notably in diabetes and BCG vaccination at birth. Further studies are warranted to address disparities in this vulnerable, understudied population.