Association of multiple-sclerosis-related mortality with COVID-19 and other common infections: a multiple causes of death analysis

Fedeli U, Barbiellini Amidei C, Avossa F, Schievano E, Kingwell E

Abstract

Background and purpose
People with multiple sclerosis (MS) suffer from higher infection-related mortality compared to the general population; however, sparse data are available on the increased risk of death associated with coronavirus disease 2019 (COVID-19) and other common types of infections.

Methods
All mortality records and multiple-cause-of-death data in 2010-2021 of residents in the Veneto region (northeastern Italy) were extracted. Mention of specific infections was compared between death certificates reporting MS or not. Odds ratios (OR) with 95% confidence intervals (95% CI) were estimated by conditional logistic regression matching by age, sex and calendar year. The bimonthly averages of MS-related deaths in 2010-2019 were compared with those registered during the pandemic (2020-2021).

Results
Of 580,015 deaths through 2010-2021, MS was mentioned in 850 cases (0.15%), 59.3% women. Influenza and pneumonia were reported in 18.4% of MS-related compared to 11.0% non-MS-related deaths (OR 2.72, 95% CI 2.28-3.25). The odds of mention of urinary tract infections was significantly greater in MS-related deaths of men (OR 8.16, 95% CI 5.23-12.7) than women (OR 3.03, 95% CI 1.82-5.02). Aspiration pneumonia, pressure ulcers/skin infections and sepsis were also significantly associated with MS-related deaths. Reporting of COVID-19 as a cause of death did not significantly differ between deaths with and without mention of MS (approximately 11% of both). However, compared to 2010-2019, peaks in MS-related deaths were observed during the pandemic waves.

Conclusions
Infections continue to play a significant role in MS-related deaths, underlying the need to improve prevention and management strategies.

FULL TEXT
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