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Catania and West Nile Virus (WNV): emerging epidemiological scenarios?

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Introduction. West Nile Virus (WNV) infection represents a public health challenge due to its seasonal pattern and the risk of neuroinvasive disease, particularly among older adults and vulnerable individuals. Monitoring the geographical distribution and viral circulation is essential for prevention. In Italy, WNV, epidemiologically concentrated in northern regions, has been progressively spreading to southern areas.

Materials And Methods. A retrospective observational study was conducted on WNV cases reported to the Local Health Authority (ASP) of Catania between August and December 2025 and subjected to epidemiological investigation. Demographic, clinical, and diagnostic variables were analyzed, with particular focus on the place of exposure. Cases were classified according to the National Arbovirus Surveillance Plan.

Results. A total of 11 cases were identified, predominantly male (81.8%), with a mean age of 65 years (range: 14–86 years; median: 76 years). Geographical distribution: 5 autochthonous cases (4 in Catania and 1 in Motta Sant'Anastasia) and 6 imported cases (2 from abroad: India and Albania; 4 from other Italian provinces: Sessa Aurunca [CE], Augusta [SR], Belvedere [SR], and Vulcano [ME]). Diagnostics: IgM antibodies were positive in 81.8% of cases, while PCR testing was positive in 54.5%; 7 cases were classified as confirmed and 4 as probable. Clinical presentation: Febrile illness was observed in 36.4% of cases, while neuroinvasive disease occurred in more than half of the patients; comorbidities were present in 54.6% of cases. Outcomes: Nine patients recovered and two died, both elderly individuals (one with a history of splenectomy due to hereditary spherocytosis and one with prostate carcinoma). During the same period, veterinary surveillance identified IgM-positive equids in the province of Catania (Misterbianco, Aci Castello, Palagonia, and Paternò), indicating active viral circulation in the area.

Conclusions. These findings confirm the circulation of WNV in the Catania area, with transmission occurring predominantly through local (autochthonous) exposure. This trend is likely facilitated by climate change, which influences vector distribution and abundance. Older individuals and those with comorbidities appear to be more vulnerable and at greater risk of severe outcomes. Strengthening surveillance systems, vector control measures, public awareness campaigns, and preventive interventions targeting high-risk groups remains essential.