

EXPLORING THE RELATIONSHIP BETWEEN AIR QUALITY AND ISCHEMIC STROKE ADMISSIONS DURING THE COVID-19 PANDEMIC

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Objectives:

Amongst all the global catastrophe due to Coronavirus disease 2019, a significant bright spot is a reduction in air pollution as countries undergo lockdowns to limit the spread of infection. Another reduction that has been reported is in the number of strokes presenting to hospitals, despite the virus implicated in causing a hypercoagulable state. Acute exposure to air pollution has been linked to increase in stroke incidence and the improvement in air quality may be responsible for the decrease in stroke presentations.

Materials and Methods:

To explore this hypothesis, we compared the air quality index (AQI) of Karachi, the largest cosmopolitan city of Pakistan, during the lockdown period in 2020 to the same period in the previous year.

Results:

We found a significant drop in AQI depicting an improvement in air quality. Simultaneously, we identified a drop in number of stroke admissions to less than half from 2019 to 2020 at one of the largest tertiary care hospitals of the city, during this period of interest.

Conclusion:

We hypothesize that one important reason for this drop in stroke admissions, may be an actual reduction in stroke incidence brought about by an improvement in air quality.

Key Words:

Stroke; Air pollution; Covid; Air quality index; South Asia; Pandemic