

Urban Air Pollution and Climate Change as Environmental Risk Factors of Respiratory Allergy: An Update

Instructions to obtain 0.5 Continuing Medical Education Credits

These credits can be earned by reading the text and taking this CME examination online through the SEAIC's web site at www.seaic.es.

The questions should be answered within 6 weeks from the publication of the examination.



“ Actividad acreditada en base a la encomienda de gestión concedida por los Ministerios de Sanidad y Política Social y Ministerio de Educación al Consejo General de Colegios Oficiales de Médicos con 0,5 CRÉDITOS, equivalentes a 3 horas lectivas” .



“ This activity is accredited with 0.5 credits (equivalent to 3 teaching hours). These credits have been acknowledged by the EUROPEAN ACCREDITATION COUNCIL FOR CME (EACCME) FROM THE EUMS” .



Activity sponsored by Astra Laboratories



CME Items

- 1) The most abundant atmospheric components of urban air pollution with inflammatory effects on human airways are
 - a) Nitrogen dioxide and sulphur dioxide
 - b) Nitrogen dioxide, ozone, and particulate matter
 - c) Sulphur dioxide, nitrogen dioxide, and ozone
 - d) Carbon monoxide and carbon dioxide
- 2) Human exposure to ozone has been shown to elicit a series of conditions such as
 - a) Altered airway permeability
 - b) Lung function impairment
 - c) Increased responsiveness to aeroallergens
 - d) All of the above
- 3) During which season are ozone levels highest?
 - a) Winter
 - b) Autumn
 - c) Spring
 - d) Summer
- 4) Acute exposure to diesel exhaust causes
 - a) Stomachache
 - b) Irritability
 - c) Lung function impairment
 - d) Dizziness
- 5) With respect to the possible relationship between components of air pollution and allergens in inducing respiratory allergy, air pollution can
 - a) Interact with pollen grains, leading to increased release of allergens characterized by modified antigenicity.
 - b) Interact with allergen-bearing microscopic plant-derived particles that can reach the lower airways in inhaled air and induce asthma in predisposed individuals.
 - c) Cause an inflammatory effect on the airways of susceptible individuals, with increased epithelial permeability, easier penetration of pollen allergens into the mucous membranes, and easier interaction with cells of the immune system.
 - d) All of the above
- 6) Global greenhouse gas emissions due to human activities have grown since pre-industrial times, with an increase between 1970 and 2004 of
 - a) 50%
 - b) 70%
 - c) 80%
 - d) 100%
- 7) The effects of air pollutants on lung function depend on
 - a) Geographical location and time of the year
 - b) Duration of exposure and total ventilation of exposed individuals
 - c) a) and b)
 - d) Aeroallergen concentration
- 8) Which of the following do elevated atmospheric CO₂ concentrations and higher temperatures induce in plants?
 - a) Increased photosynthesis and reproductive effort
 - b) Reduced photosynthesis and reproductive effort
 - c) Reduced photosynthesis, with no effect on reproductive effort
 - d) No effects
- 9) Which of the following is true of thunderstorm-associated asthma?
 - a) There is a link between asthma epidemics and thunderstorms.
 - b) Thunderstorm-associated asthma epidemics are limited to late spring and summer when there are high atmospheric concentrations of airborne allergenic pollens and/or mould spores.
 - c) There is a close temporal association between the start of the thunderstorm and the onset of epidemics.
 - d) All of the above
- 10) Under which of the following weather conditions does UV radiation favor the formation of ozone in polluted urban atmosphere?
 - a) Elevated daytime temperatures, low wind speeds, and clear skies
 - b) Low night temperatures and cloudy skies
 - c) High humidity, low barometric pressure, and strong wind
 - d) Low temperature and low relative humidity