

Air pollution impact on phagocytic capacity of peripheral blood macrophages and antioxidant activity of plasma among school children

Ruiz, Fernando

Videla, Luis A.

Vargas, Nelson

Parra, Maria A.

Trier, Alex

Silva, Claudio

Peripheral blood macrophages of school children from downtown Santiago, Chile—a highly polluted city—exhibited a lower phagocytic index with higher percentage of killing than those of the rural village of Marla Pinto. These findings were observed concomitantly with a lower antioxidant activity of plasma in Santiago students. No differences were observed in serum immunoglobulins (IgA, IgG, and IgM), secretory IgA in saliva, and complement component c₃. White blood cell count was higher in Marla Pinto residents than in Santiago students, including those cells with phagocytic capacity. It is suggested that particulate air pollution may enhance macrophage activity with impairment of the antioxidant capacity of plasma. © 1988 Taylor & Francis Group, LLC.