[ERS] Increased circulating alveolar epithelial microparticles in COPD patients

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• El aumento de la circulación de MPs refleja daño endotelial.
• La circulación MPs está aumentada en estres oxidativo, infección, ECV…
• En la EPOC están ↑ VE-cadherin, PECAM, E-selectin.
• Existen datos que sugieren su papel en la patogénesis de enfisema.
• Es necesario estudiar su papel en la progresión de la EPOC y la incidencia de ECV.
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We hypothesized that circulating alveolar epithelium-derived MPs (Alveolar Epithelial MPs) increased in COPD patients.

Aims: To compare Alveolar Epithelial MP levels between stable COPD patients and healthy non-COPD volunteers.
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Methods: 46 stable COPD patients and 16 healthy volunteers matched with age and smoking history were enrolled. Blood samples were collected, and plasma was stained with antibodies and analyzed using FACS. Ep-CAM and E-cadherin are specific markers for epithelial cells. RAGE is highly expressed in alveolar type I cells. We defined Alveolar Epithelial MPs as follow; RAGE⁺/Ep-CAM⁺ MPs (Alveolar Ep-CAM MPs) and RAGE⁺/E-cadherin⁺ MPs (Alveolar E-cad MPs).
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Results:
• Both Alveolar Ep-CAM and E-cad MPs were significantly higher in the stable COPD patients than in the healthy volunteers (Alveolar Ep-CAM MPs: p = 0.001, Alveolar E-cad MPs: p < 0.001).
• There was no significant difference in the two Alveolar Epithelial MP levels among the GOLD stages although their levels in each stage were significantly higher than those in healthy volunteers.
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**Conclusions:** Alveolar epithelial MPs are released into the circulation in COPD patients, indicating the presence of epithelial injury and disruption of the alveolar epithelial-endothelial barrier function.
Muchas gracias por su atención