



## Pro-inflammatory effect of cystic fibrosis sputum microparticles in the murine lung

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Résumé en anglais	<p><b>BACKGROUND:</b> The role of microparticles (MPs) in the inflammatory process of cystic fibrosis (CF) airways is not known. Here, we have studied the pro-inflammatory potential of CF MPs in a model of acute lung injury.</p> <p><b>METHODS:</b> Swiss mice were subjected to intratracheal administration of MPs obtained from CF and primary ciliary dyskinesia (PCD) patients. Histopathology, total and differential cell counts in bronchoalveolar lavage fluid were used to evaluate the inflammatory reaction in the lung. Lipopolysaccharide (LPS)-like activity of MPs was studied by Limulus amoebocyte lysate assay.</p> <p><b>RESULTS:</b> MPs obtained from acute CF patients determined peribronchial and perivascular inflammatory infiltrates similar to those elicited by LPS. This inflammation was granulocyte-dominated and higher than that determined by MPs obtained from stable CF, whereas PCD MPs caused a macrophage-dominated inflammation. While LPS-activity was not found in circulating blood MPs prepared from CF patients, it was present in MPs obtained from CF sputum and sputum CD66b(+) neutrophils. Finally, LPS-like activity was only detected in circulating MPs after incubation with LPS as well as in MPs obtained from LPS-stimulated neutrophils obtained from healthy donors.</p> <p><b>CONCLUSIONS:</b> These data suggest that the pro-inflammatory potential of neutrophil-derived MPs in the CF airways may be subsequent to the binding of shedded LPS.</p>
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