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Title: NT-proANP and lung diffusion in sarcoidosis

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Body: Background- Since that several lines of evidences support a role in modulating pulmonary circulation for the natriuretic peptides, we aimed to investigate possible relationship between NT-proAtrial (NT-proANP) and NT-proBrain (NT-proBNP) natriuretic peptides and lung diffusion abnormalities, as assessed by lung diffusion for carbon monoxide (DL_{CO}), in patients with pulmonary sarcoidosis. Methods- Resting NT-proBNP and NT-proANP were determined in thirty-two outpatients with pulmonary sarcoidosis, subdivided in two subgroups according to a cut-off DL_{CO} values equal to 75%, and eighteen well-matched healthy volunteers. Each subject underwent, besides pulmonary lung function test, Doppler echocardiographic examination with Tissue Doppler Imaging analysis and cardiopulmonary exercise test. Results- NT-proANP levels were significantly higher in patients with $DL_{CO} < 75\%$ (2092 ± 768 fmol/L) with respect to those with $DL_{CO} \geq 75\%$ (1575 ± 488 fmol/mL) and healthy subjects (1387 ± 237 fmol/mL) whereas no difference was found for NT-proBNP. A significant univariate relationship was found between NT-proANP and age ($r:0.403$, $p=0.022$), DL_{CO} ($r:-0.540$, $p=0.001$), specific membrane diffusion capacity ($r:-0.480$; $p=0.006$), peak oxygen uptake ($r:-0.386$, $p=0.023$), and ventilator efficiency ($r:0.431$, $p=0.011$). DL_{CO} was the only variable independently associated with NT-proANP levels at multivariable analysis ($\beta:-0.464$; standard error:0.03; $p=0.009$). Conclusions- Our findings support a key role of NT-proANP into mechanisms underlying modulation of lung function. The NT-proANP release specifically oriented to counterbalance the lung diffusion impairment is a stimulating hypothesis which warrants confirmation.