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Title: Cardiorespiratory fitness, pulmonary function and C-reactive protein levels in adults with diabetes

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Body: Background/Aim: Diabetes Mellitus (DM) is associated with impairment of cardiorespiratory fitness and pulmonary function; increasing evidences have suggested that comorbidities and systemic inflammation may be involved. The objective of this study was evaluate changes in metabolic variables, C-reactive protein (CRP) levels, cardiorespiratory fitness and pulmonary function in DM patients compared with healthy subjects. Methods: 19 men with diabetes (49±2 years) and 19 healthy control subjects (51±1 years) were studied. All subjects performed a spirometry and an incremental cardiopulmonary exercise test on a cycloergometer with electromagnetic breaking (workload increases, range 13-22W/min). Cardiopulmonary data were continuously collected with a metabolic unit. Heart rate (HR) was continuously monitored. Results: are presented in table 1.

Table 1. Lung function, physical capacity parameters and CRP levels.

	Control (n=19)	DM (n=19)	P-values
CRP (mg/L)	0.66 ± 0.15	0.88 ± 0.21	NS
HbA1c (%)	5.73 ± 0.01	8.39± 0.36	<0.001
FVC (% pred)	101.0 ± 2.1	103.4 ± 3.0	NS
FEV1 (% pred)	99.3 ± 2.5	103.9 ± 3.0	NS
FEV1/FVC	80.4 ± 1.2	82.2 ± 0.9	NS
FEF 25-75% (% pred)	100.6 ± 6.6	115.6 ± 5.8	NS
PEF (% pred)	94.7 ± 5.0	89.9 ± 3.5	NS
Peak HR (beats/min)	149 ± 3	139 ± 2	0.009
Work load (Watts)	158 ± 5	135 ± 6	0.005
RER	1.08 ± 0.02	1.14 ± 0.03	0.044
VO2peak(ml/kg/min)	24.17 ± 0.7	18.91 ± 0.7	<0.001

VO2AT (ml/kg/min)	14.11 ± 0.8	12.17 ± 2.5	0.044

Means±SE. Student t test ($p < 0.05$).

Conclusion: The cardiorespiratory fitness is reduced in patients with diabetes but the spirometric values are preserved, and the CRP did not differ of the control subjects. Financial support: Capes, FAPESP.