



Pulmonary consequences of hypothyroidism

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Abstract:

Background: Although hypothyroidism has insidious onset and relatively asymptomatic, exertional dyspnea and fatigue can be the presenting complaints. **Objectives:** To assess functional lung impairment in hypothyroid patients both at rest and during exercise. **Patients and methods:** A case control study was carried out on 42 patients with newly diagnosed hypothyroidism and 12 control subjects. Hypothyroidism was diagnosed based on high value of thyroid stimulating hormone TSH ≥ 6 uIU/ml, and low value of FT4 ≤ 0.8 ng/dl, both groups had chest x ray, spirometry, diffusing capacity for carbon monoxide DLCO, arterial blood gases (ABG) and symptom limited exercise testing using treadmill. **Results:** Both groups were comparable as regard age, sex and body mass index. Although ABG and spirometry were within normal in both groups, FVC%, and FEF₂₅₋₇₅% were significantly reduced in hypothyroid group (P 0.014, 0.000 respectively), DLCO significantly reduced in hypothyroidism (P 0.005). As regard exercise testing parameters, maximum oxygen consumption VO₂%, minute ventilation VE, tidal volume VT, and oxygen pulse VO₂/HR were significantly reduced in hypothyroidism (0.005, 0.000, 0.000, and 0.02 respectively). TSH significantly negatively correlated with FEV₁%, FEF₂₅₋₇₅%, and DLCO while they significantly positively correlated with FT4. **Conclusion:** Even with presence of normal chest x ray, arterial blood gases, and spirometry in patients with hypothyroidism DLCO and exercise testing parameters can be significantly reduced.

Keywords:

Hypothyroidism, Resting pulmonary function, Arterial blood gases, Exercise.

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