

Sildenafil for a Treatment in Patients with Chronic Lung Disease and Heart Failure in an Acute Stage

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Introduction:

We realized a follow-up with 30 patients after Hospital discharged for heart failure for a couple of weeks. These groups have a peculiar characteristic: are patient between 55 and 65 years old with a wonderful quality of life before actual disease, that for different reason came into heart failure for ischemic disease (myocardial infarction, atrial fibrillation and hypertensive crisis). We random them with sildenafil and 15 patients assigned to placebo, with 3- and 6- month assesments for cardiopulmonary treadmle test, echo-cardiography doppler procedures.

Objectives:

We really know that nitric oxide represents a challenge for recovering pulmonary capacity leading to improve the ejection fraction in patients with heart failure at the Intensive Care Units. We gave 50mg of sildenafil twice per day in this group of patients.

Results:

Sildenafil improved pulmonary capacity and ejection fraction. These findings suggested us the potential benefits of sildenafil in heart failure improving pulmonary capacity through the endothelium modulation of the muscle due to exercise.

In the group treated with sildenafil we observed reduction of systolic pulmonary atery pressure (from 30,3 to 23,6 mmHg and 21,5 mmHg), ergoflex effect on ventilation (from 5,7 to 3,1 l.min⁻¹ and 1.9 l.min⁻¹), ventilation to CO₂ production slope (VE/Vco₂, from 33.5 to 31,8 and 29.7), and breathlessness (score) (from 21.5 to 17,1 and 18.2), and an increase of FMD (from 8.5% to 13.4% and 14.2%), peak Vo₂ (from 12.8 to 19,2 ml.min⁻¹.kg⁻¹ and 17.7 ml.min⁻¹) and ratio of Vo₂ to work rate changes (from 6.7 to 9.6 and 10.1) All changes were significant at p<0.01. No adverse effects were observed.

Conclusions:

In patients with heart failure, sildenafil improves exercise ventilation and aerobic capacity and is sustained and is significantly related with an endothelium-mediated attenuation of exercising muscle oversignaling. Chronic use of sildenafil is a wonderful tool for heart failure treatment.