

Title: Balloon pulmonary angioplasty to treat chronic thromboembolic pulmonary hypertension: an initial experience in a tertiary medical center in Pernambuco-Brazil

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Introduction: Chronic thromboembolic pulmonary hypertension (CTEPH) is a rare and severe complication of acute pulmonary thromboembolism which occurs in nearly 2 to 5% of all cases, and even to evaluate to death by right ventricular dysfunction. The curative treatment is the pulmonary thromboendarterectomy surgery. However, some patients can be not eligible owing to severe comorbidities or inaccessible *situs* of the fibrothrombotic obstruction. Nowadays, balloon pulmonary angioplasty (BPA) has been emerging as a potential therapeutic alternative, with significant improvement of the symptoms, exercise capacity and cardiopulmonary hemodynamics.

Case report: A 35 years old female patient, was admitted to the hospital in FC IV (NYHA) dyspnoea, tachycardia and dry cough. A thoracic angio-CT was performed and showed a large filling defect in the right interlobar and left lower pulmonary artery. An echocardiogram was carried out and showed a severe tricuspid regurgitation and the measured PSAP was 75mmHg, suggesting the diagnosis of CTEPH. It was prescribed sildenafil (150mg/day) and warfarin (5mg) as an initial treatment. Due to the persistence of symptoms after two years of clinical treatment, the patient underwent to a pulmonary angiography and after a criterious analysis of the lesions anatomy by an expertise tem of hemodynamicists, she was submitted a balloon pulmonary angioplasty of left lower lobe's arteries, which lead her to improve significantly her symptoms. Prior to angioplasty, six-minute walk test (6MWT) showed final distance of 434 meters. Then, a series of 6MWT were seven days and three months after the procedure that showed final walked distance of 460, and 490 meters, respectively, showing significant improvement on her exercise capacity. Currently, the patient reached in FC I and echocardiographic variables of right ventricular dysfunction and the biomarker NT-pro-BNP showed significant amelioration

Conclusion: In selected patients, BPA seems to be a very effective and promising intervention to treat CTEPH. In our first patient submitted to that all clinical and biomarker showed a great result. Even so, we need more medical experience to completely validate this treatment for this severe disease. .