

A 60-year-old white Brazilian man, with controlled hypertension and stage 2 obesity presented to our institution with a complaint of progressive fatigue with moderate to light exertion of approximately 1 year's duration.

During that period, he had undergone myocardial perfusion scintigraphy without evidence of obstructive ischemic disease.

He had no clinical evidence of systolic heart failure.

He had undergone biological mitral valve replacement 3 years previously for mitral valve stenosis and had undergone ablation of atrioventricular nodal reentry tachycardia 18 months previously.

At the time of valve replacement, there was no reported evidence of pulmonary arterial hypertension.

The patient's medication list included aspirin 100 mg/day, carvedilol 50 mg/day, atorvastatin 10 mg/day, and losartan 25 mg/day.

His echocardiogram showed normal function of a mitral prosthesis, global left ventricular systolic function within normal limits (left ventricular ejection fraction 62 % measured using the Teichholz method), stage I diastolic dysfunction, and mean pulmonary arterial systolic blood pressure of 50 mmHg.

In the 6-minute walk test, the patient walked 104 meters (Table 1).

Catheterization of his right heart chambers and pulmonary arteries confirmed the diagnosis of pulmonary hypertension (Table 2).

During the follow-up period, therapy with nifedipine and sildenafil was not tolerated secondary to orthostatic hypotension.

The patient was referred for radiofrequency ablation of the pulmonary artery trunk for the treatment of refractory pulmonary hypertension.

The procedure was performed in the catheterization laboratory with direct visualization using fluoroscopy and radiopaque contrast dye.

The patient remained under unconscious sedation.

Catheterization of the right femoral artery via the standard Seldinger technique was performed using an 8-French valved short sheath after subcutaneous injection of a local anesthetic.

Subsequently, this sheath was replaced with a steerable long sheath (Agilis®; St. Jude Medical, St. Paul, MN, USA) using the standard over-the-wire technique.

Unfractionated heparin was administered intravenously, targeting an activated coagulation time between 250 and 350 seconds.

Electroanatomic reconstruction of both the right ventricular outflow tract and pulmonary artery was performed using the EnSite Velocity Cardiac Mapping System (St.Jude Medical) under direct fluoroscopic visualization, and a merger was made with the formatted image obtained by performing cardiac computed tomography angiography (Fig.1).

The Agilis® sheath was advanced into the right ventricular outflow tract just before reaching the pulmonary valve.

Through this long sheath, we introduced an ablation catheter with an open irrigated tip (St.Jude Medical).

The parameters used for each application according to our protocol were as follows: power of 5 W, maximum temperature of 48 °C, 60-second duration in each spot, maximum impedance variation of 10 % from baseline values, and an irrigation flow rate of 17 ml/minute, which created a circle in the pulmonary artery trunk.

The patient was discharged the next morning.

No noteworthy changes before or after the procedure or before discharge in the patient's radiographic or echocardiographic laboratory parameters were seen.

The patient's blood pressure in both the right heart chambers and the pulmonary artery were determined using catheterization before and at 3 and 6 months after the procedure.

The results are shown in Table 2.

At the patient's 3-month follow-up examination, he showed an improvement in functional class for fatigue with major exertion.

He also demonstrated an increased distance walked in the 6-minute walk test and reduction of the pressures in both the right cavities and the pulmonary artery.

Currently, with 6 months of clinical follow-up, he has maintained his improvement in functional classification and is pedaling his bicycle.