Definition and prevalence: Hypertension has been defined (ESH/ESC guidelines 2013) as resistant (RH) to treatment when it is not controlled after a therapeutic strategy that includes adequate lifestyle measures plus a diuretic and two other anti-hypertensive drugs from different classes at adequate doses. Its prevalence is about 5-30% in hypertensive patients, and there is clear evidence that RH associates with abnormally high cardiovascular and renal morbidity and mortality. In Portugal, as shown by the Physa study, RH occurs in 8% of all treated hypertensive subjects with a prevalence of 5-10% in general practice and 25-30% in hypertension clinics. RH is more common in elderly people as well as in the obese, people with sleep apnoea, high salt intake, diabetes, renal disease, secondary hypertension, among others.

Strategy: Before RH is diagnosed, one must exclude resistance due to doctors and resistance due to patients. Resistance attributable to doctors includes: a) incorrect blood pressure (BP) measurements (non-adapted devices, cuffs, no BP evaluation in both arms and legs, Osler maneuver…), b) inadequate regimens (incorrect combinations, low doses particularly of diuretics, furosemide given wrongly only once a day, inertia…), c) failure to identify white coat hypertension or white coat effect with 24h ambulatory BP monitoring (ABPM), d) no detection of drug interactions and potential pro-hypertensive drugs, e) failure to detect renal disease; f) failure to detect secondary hypertension (most prevalent forms are renal disease, primary hyperaldosteronism and sleep apnoea). Resistance due to patients includes: a) high salt intake (measurement of 24-h urinary sodium excretion is mandatory), high alcohol intake, low potassium intake, b) use of non-prescribed potential pro-hypertensive drugs; c) non-compliance to therapy (drug intake under surveillance and evaluation with ABPM is recommended). After all these items have been evaluated, further administration of mineralocorticoid receptor antagonists (e.g. spironolactone 12.5-25 mg/d) as a 4th drug has been shown to provide adequate BP control in a large percentage of suspected RH patients. If all these procedures fail to reverse or control RH, renal artery denervation or carotid sinus stimulation may be considered providing that there are no technical, anatomical or medical contraindications to these procedures.