Methods: Retrospective analysis of all cases of operated CP in our institution. Results: From 1978 to 2012, 140 cases of operated CP could be reviewed (89 males (71%), Mean age=54.4 years (range from 19 to 80y)). Mean time of symptoms was 65.9 months (range from 8 days to 30y). An acute presentation (<3m of symptoms) was seen in 62 patients (44%), subacute (3-6m) in 28 patients (19.5%), and chronic (6m-1y) in 17 patients (12%). Table: Time of symptoms per etiology. The etiology of CP was idiopathic in 74p (54%), post-Acute Ischemic Pericarditis in 24p (17%), Tuberculosis in 15p (11%), Purulent in 10p (7%), post-Cardiac surgery in 5p (3.6%), post-Radiotherapy in 3p (2%), uremic in 2p (1%). Figure 1: Distribution of etiologies in relation with its chronology of symptoms. Conclusions: Post-Cardiac surgery and Radiotherapy are still an uncommon cause of CP. The vast majority of cases of chronic CP are idiopathic. The most acute presentation of CP is for patients with purulent CP (less than 1 months of symptoms), followed by uremic CP (1.4m) and Neoplastic CP (1.7m).

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Thirty year experience of constrictive pericarditis: one hundred and forty cases with a long-term follow-up
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Objectives and methods: 1. To describe the clinical presentation, etiology, diagnostic techniques, surgical findings and long-term follow-up of patients operated of Constrictive Pericarditis (CP). 2. To identify independent predictors of poor outcome after pericardiectomy. Retrospective analysis of all analyzed cases of CP. Clinical data, surgical findings and follow-up (FU) were recorded. Results: Between 1978 and 2012, 140 patients underwent pericardiectomy for CP (Male = 99 (71%), age=54 years-old, range (17-80y). Clinical presentation: Congestive heart failure (124p, 88%), chest pain (46p, 33%) or fever (53, 23.4%). Forty-nine patients (35%) were in an advanced NYHA class (III or IV) before surgery. The most frequent etiology of CP was idiopathic (71%). In patients with a specific cause of CP, tuberculosis (11%) was the most frequent diagnosis. Sixteen patients (11%) died peroperatively. Predictors of perioperative mortality were age (66±11 vs 53±16 years, p<0.002), NYHA status III or IV (31% vs 62%, p=0.004) and presence of pericardial effusion (27% vs 65%, p<0.01). Overall mortality during FU (12 years (range 0.1 to 34.5y)) was 39%. Long-term FU analysis (124 patients) showed that independent predictors of death were age at surgery (HR 1.05, 95% CI. 1.017-1.088), a previous episode of acute pericarditis (HR 2.93, 95% CI 1.26-6.81) and a preoperative NYHA status III or IV (HR 4.03, 95% CI 1.79-9.05). Echocardiography did not have an impact neither in perioperative nor survival in the long-term FU.

Use of diagnostic procedures

Diagnostic procedure Use Characteristics Number (percentage)

Echocardiography 123 (88%) Parietal effusion (< 1mm) 52 (42%)

Septal Notch 89 (66%)

Typical cases 97 (77%)

Pacemaker leads 53 (43%)

Pacemaker leads 53 (43%)

Pacemaker leads 53 (43%)

Pacemaker leads 53 (43%)

Magnetic Resonance (MR) 13 (9%) Calcification or thickening 5 (36%)

Computed tomography (CT) 71 (51%) Calcification or thickening 53 (71%)

Hypertension and Devices

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Resistant hypertension: multivariate predictors of effective renal denervation
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Objectives: Renal denervation (RDN) is effective in the treatment of resistant hypertension (HTN). We investigated the impact of patient’s characteristics on responder-rate and efficiency of RDN. Patients and methods: 43 patients with resistant HTN despite treatment with at least 4 antihypertensive drugs and mean systolic 24-h ambulatory BP (ABP) >140 mmHg were included in this analysis. Patients had substantial uncontrolled diabetes (95%), coronary heart disease (53%), obstructive sleep apnoea (OSAS) (23%) and impaired renal function (35%). FU at 3 and 6 months consisted of clinical and biochemical evaluation and ABP monitoring. Results: Multivariate analysis of baseline patient’s characteristics found that only the mean systolic ABP was a predictor for responders to RDN (OR 3.8; 95% CI, 1.4-10.2; p < 0.006), whereas BMI, baseline creatinine, age, sex, medication or OSAS were not predictive. Based on these findings, patients were divided into two groups: mean baseline systolic ABP < 150 (group 1) or ≥ 150 mmHg (group 2) for univariate analysis. In patients of group 1 (n=16) the ABP reduction at 3 and 6 months was -5/-5 mmHg (n.s.) and -1/-5 mmHg (n.s.) with a responder-rate of 31% and in patients of group 2 (n=27) -7/-9 mmHg (p<0.01) and -25/-13 mmHg (p<0.001) with a responder-rate of 89%. No complications occurred during FU.

Conclusion: Exclusively baseline ABP was a predictor for effective RDN. Our results indicate that RDN should only be performed in patients with mean systolic ABP of > 150 mmHg despite multi-drug therapy.

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Renal sympathetic denervation - a look behind the scenes of renal artery impedance changes
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Among patients with arterial hypertension (AHT) those with drug resistance are still a challenge in treatment. Renal sympathetic denervation (RDN) offers an innovative treatment approach. However, intraoperative parameters able to predict the ablation success are still lacking. We sought to enlighten whether electric parameters assessed during the procedure help to establish a prognosis. Methods: 42 patients with AHT (age: 58±14 years, 43% female) who underwent a RDN (simplicity radiofrequency ablation catheter) were evaluated for the procedure derived mean of applied capacity, wall impedance and impedance decrease over time. After a follow up of 6 months the RD success was defined as a drop off of the mean outpatients blood pressure by more than 10 mmHg.

Results: After 6 months the mean BP drop off was -7.3±3 mmHg. 26 patients (62%) responded to RDN (mean -16±10 mmHg). Compared to them who failed to decrease with BP, those who respond had a similar number of ablation points per artery (responder 6.8 vs. non-responder 6.2). Responder showed neither a difference in averaged applied capacity (6.2 vs. 6.0 Watts) nor in their renal artery wall impedance at the beginning of ablation (286 Qhm vs. 172 Qhm). But there was a tendency to a faster impedance decrease within the first minute of two minutes (-16% vs. -11%, p=0.18) and a stronger relative fall of impedance compared to baseline impedance (-18% vs. -12%, p=0.09) in favour of patients who respond to RDN.

Conclusion: Looking for RDN success predicting parameters the overall fall of the wall impedance during ablation and especially its velocity within the first minute of the procedure are promising parameters to distinguish between responders and non-responders to that treatment. In contrast, the number of points burned as well as the power applied seem to be irrelevant to predict procedural success.