Background: Radiofrequency ablation has become a validated technique to cure symptomatic refractory atrial fibrillation (AF). Cardiac computed tomography (CT) is used to evaluate the left atrial (AT) anatomy in order to improve the ablation technique. The analysis of non-cardiac structures during cardiac catheter ablation may identify clinically significant incidental findings (IF). The objective of this study was to determine the prevalence of IF in patients undergoing AF catheter ablation.

Methods: Between February 2006 and March 2010, patients undergoing a procedure of AF or left atrial tachycardia (LAT) ablation were enrolled and underwent a cardiac CT scan. Extracardiac IF were considered to be present if an abnormality was identified without previous clinical suspicion or known disease.

Results: 250 patients (55.2 ± 9.6 years of age, 82.4% men) were enrolled (133 paroxysmal, 43 persistent, 58 permanent AF and 16 LAT). Fifty-eight patients (23.2%) had a total of 76 IF. Patients with IF were significantly older (59.5 ± 8.2 vs 53.8 ± 9.7 years old, p<0.001). No relationship exist between the type of arrhythmia and the existence of IF. The majority of IF were pulmonary (50%). Two lung cancers were discovered.

Conclusions: Cardiac CT scan is a useful tool to evaluate LA and pulmonary veins morphology before AF ablation. However, as a considerable prevalence of IF was found in our study, extracardiac structures should be routinely analyzed to detect unknown diseases.

Organ | Incidental findings | n
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Lungs (n=38) | Emphysema | 12
 | Atelectasis | 6
 | Bronchic syndrome | 6
 | Bronchectasis | 5
 | Fibrosis | 2
 | Pleural effusion | 2
 | Lung cancer | 2
 | Intestinal Pneumonia | 1
 | Pleural calcifications | 1
 | Asbestos | 1
Mediastinum (n=15) | Adenopathy | 15
Vascularature (n=11) | Aorta dilation | 9
 | Aorta ulceration | 1
 | Pulmonary arteries anomalies | 1
Liver (n=5) | Nodule | 3
 | Cyst | 2
Coronary arteries (n=2) | Congenital coronary arteries anomalies | 2
Other (n=5) | Hiatal hernia | 2
 | Kidney cyst | 1
 | Pericardial calcifications | 1
 | Thymus relicate | 1

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Characteristics and treatment of inducible flutter associated with typical atrioventricular reentrant nodal tachycardia in pediatric patients
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Background: Atrioventricular reentrant nodal tachycardia (AVNRT) and right atrial flutter could have a common area in the perinodal myocardium. We studied the occurrence of inducible flutter in pediatric patients with AVNRT or atrioventricular reentrant tachycardia (AVRT). Moreover we studied the effect of slowpathway ablation on flutter inducibility.

Methods and Results: We included 110 children (mean age=12±4 years), without underlying heart disease, previous ablation or history of atrial flutter or fibrillation, who were referred for supraventricular tachycardia ablation. Thirty-seven (34%) patients had AVNRT and 73 (66%) had AVRT. A standardized protocol of flutter induction was used in all these patients at baseline and after ablation. All patients with AVNRT had immediate successful slowpathway ablation. Ninety-nine percent of patients with AVRT had immediate successful accessory pathway ablation. Pediatric patients with AVNRT had inducible flutter in 14% of cases whereas no patient with AVRT had inducible flutter (p=0.001). After slowpathway ablation, including a line between the low tricuspid valve and the coronary sinus ostium, no inducible flutter was found in the AVNRT and AVRT group. In the AVNRT group, patients with inducible flutter had shorter baseline AH interval (67±14 vs. 88±21 ms, p<0.04), AV Wenckebach (294±67 vs. 404±101 ms, p=0.02) and VA Wenckebach (298±48 vs. 403±98 ms, p=0.04) compared to other AVNRT patients.

Conclusion: These results suggest that AVNRT and right atrial flutter could share a common area located in the perinodal myocardium. However the slowpathway may not correspond to the slow conduction area during atrial flutter. Large slowpathway ablation could abolish flutter inducibility.

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Similar implantable defibrillator event rates in patients with unexplained syncope and left ventricular dysfunction whatever the result of electrophysiological testing.
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Objectives: The purpose of this study was to evaluate the ventricular arrhythmias (VA) frequency in patients with unexplained syncope, ischemic or non-ischemic cardiac disease and left ventricular dysfunction (LVEF) and negative electrophysiological study (EP), implanted with cardioverter-defibrillator (ICD).

Background: According to the current guidelines, EP is performed to evaluate syncope in patients with significant altered LVEF, mainly to guide treatment by ICD. Limited data concerning incidence of ventricular events in patients with no inducible arrhythmias is available.

Methods: We evaluated 58 consecutive patients with unexplained syncope who underwent EP. All patients had a depressed LVEF (< 45 %). Sustained VA was only inducible in 28 patients (VF n=8, SMVT n=20). All patients were treated with ICD. We compared primary endpoint of severe VA in patients with negative and positive EP.

Results: Baseline characteristic were similar in the both groups. In the population (97% men), mean age was 67±10 years, 67% had ischemic cardiopathy; mean LVEF was 31±7 % in non inducible group, 32±9 % in inducible group (p = 0.16). During the follow-up (25±22 months), 22 severe VA occurred: Kaplan-Meier analysis of time to first appropriate ICD therapy for non-inducible and inducible VA showed overlapping curves (p =0.9), with 11 (37%) and 11 (39%) events in each group. Sub-group analysis according to LVEF and etiology of cardiopathy did not show significant difference.

Conclusions: In patients with unexplained syncope, ischemic or non-ischemic cardiopathy and left ventricular dysfunction, severe VA occurs in the follow-up at same rate whatever the result of EP. This study suggests that these patients should be treated with ICD without doing electrophysiological testing.

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Evolution of the gain in spontaneous conduction between atrio-ventricular delay hysteresis algorithms and a new pacing mode.
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Most of studies show the interest to decrease ventricular pacing in patients implanted with a dual chamber pacemaker (PM). Algorithms developed to search spontaneous ventricular activity consisted first in increasing AV delay...