

Method: We performed a prospective observational study which aimed to describe all patients over 75 years hospitalized in a cardiology department. For each patient we collected cause of hospitalisation, medical and cardiovascular history. We compared patients with and without previous history of AF ("AF group" versus "sinus group").

Results: Among 1050 patients admitted during an inclusion period of 4 months, 357 patients were older than 75 years: 150 in the "AF group" and 207 in the "sinus group". AF was paroxysmal, persistent and permanent respectively in 21%, 30%, and 48% of cases.

Table – Main data

	TOTAL N=357	AF group N=150 (42%)	Sinus group N=207(58%)	p
Age	82±13	83±13	81±11	0.03
Men	186	75 (50)	106 (51.2)	0.9
HTA	178 (50)	76 (50.7)	102 (49.5)	0.9
Diabetes	86 (24.1)	35 (23.3)	51 (24.7)	0.1
Dyslipemia	93 (26.1)	35 (23.3)	58 (28.2)	0.3
Ischemic heart disease	13 (38.8)	55 (36.7)	83 (40.3)	0.1
Respiratory failure	26 (7.28)	13 (8.6)	13 (6.28)	0.4
Valvular heart disease	38 (10.5)	20 (13.3)	18 (8.73)	0.04
Pulmonary embolism	20 (5.6)	13 (8.6)	7 (3.3)	0.02
AVC	39 (10.9)	23 (15.3)	16 (7.7)	0,01
Thyroid disease	32 (8.9)	18 (12)	14 (6.7)	0.03
Dementia	23 (6.5)	13 (8.7)	10 (4.9)	0.1
Alcoholism	11 (3)	10 (6.7)	1 (0.48)	0.01
Main cause of hospitalisation				
Cardiac heart failure	111 (31)	67 (44.7)	44 (21.4)	<0.001
Acute coronary syndrome	67 (19)	11 (7.3)	56 (26.6)	<0.001

Conclusion: Patients over 75 years of age accounted for 34% of patients admitted in our cardiology department and 42% of them had a history of atrial fibrillation.

AF patients had more frequently valvular disease, thyroid dysfunction, which are comorbidities associated with AF but also more strokes, dementia and hospitalization for heart failure which may be consequences of AF.

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Prevalence and significance of stroke among patients with paroxysmal supraventricular tachycardia

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The risk of atrial fibrillation (AF) in patients with paroxysmal supraventricular tachycardia (SVT) is well-known. AF is a cause of embolic event and a risk of stroke in patients with SVT can be expected. The purpose of the study was to assess the prevalence of unexplained stroke in patients presenting with SVT and to look for the risk factors.

Methods: Electrophysiological study (EPS) was performed in 1379 patients without anterograde conduction through accessory pathway (AP) for SVT. Clinical and electrophysiological data were collected.

Results: Stroke was noted in 38 patients (group I) (prevalence 2.8%). 1341 patients had no stroke (group II). **1) Clinical data:** Group I was older than group II (62±13 vs 49±19 years) (p<0.0002). Associated heart disease (14/38, 37% vs 139/1341, 10%)(p<0.0001), AF history (4/38, 10.5%, 32/1341, 2%, p<0.002) were more frequent in group I than in group II. Male gender was similar in both groups. **2) Electrophysiological data:** SVT mechanism was similar: AV re-entrant tachycardia in a concealed AP was noted in 4 group I patients (10.5%) and 247 group II patients (18%)(NS). Signs of atrial vulnerability were as frequent in both groups. **3) Follow-up** (mean 3±3 years): Adverse events (AE) occurred in 102 patients: 3 group II patients presented a stroke; AF occurred in 8 group I patients (21%), 62 group II patients (5%)(p<0.0001); 3 group I patients (8%), 26 group II patients (2%) died from cardiovascular death (p<0.01). SVT ablation was performed in 65 of 102 patients (64%) with AE (AF or death), 790 of 1277 patients without AE (62%)(NS). Age (p=0.001), prior AF (p=0.001) were the 2 independent risk factors of stroke at multivariate analysis stroke. Adjusted on age, heart disease was not significantly associated with stroke.

Conclusions: Unexplained stroke was a rare event in patients with paroxysmal SVT (2.8%). Old age, and AF history were the only independent significant factors associated with the history of stroke in these patients. They had a risk of severe adverse events during the follow-up as spontaneous AF (21%) or death (8%). SVT ablation did not reduce the risk of new stroke, spontaneous AF or death.

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Safety and effectiveness of catheter ablation of atrial fibrillation before 30 years of age

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Introduction: Catheter ablation has emerged as a realistic therapeutic option for symptomatic atrial fibrillation (AF). Young patients with AF are often more symptomatic and long-term taking medication is very demanding for their daily life. The aim of our study is to describe the safety and the long-term effectiveness of catheter ablation of AF in patients under 30 years of age.

Methods and results: Twenty five consecutive patients < 30 years old (mean age: 26±3; 16-29) with paroxysmal (13 pts, 52%) or persistent AF (12 pts, 48%, AF duration 40±24 months) underwent catheter ablation of symptomatic atrial fibrillation refractory to at least one antiarrhythmic drug (AAD), in our center. Only 3 patients had structural heart disease (hypertrophic cardiomyopathy). Patients were hospitalized and monitored at 3, 6 and 12 months, every 6 months thereafter and at the end of the follow up. Mean radio frequency duration was 51±29 min (39±14 for PAF and 65±40 for PsAF) for total procedure time of 176±91 min (128±55 for PAF and 224±100 for PsAF) and a fluoroscopic time of 52±33 min (38±20 for PAF and 62±36 for PsAF). In all procedures, no major complication occurred. After a mean follow up of 54 months ± 29; 21/25 (84%) patients remained arrhythmia-free (92% for PAF and 76% for PsAF) after a mean of 1.6 procedure per patient. 19 of the 21 arrhythmia free patients were also AAD free. Only 3 patients of these 21 patients were treated with warfarin.

Conclusion: These finding suggest that catheter ablation of AF in patients under 30 years of age is safe, with good clinical long term outcome. Catheter ablation of AF can be first-line therapy in young people.

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Are QT intervals correlated to apnea-hypopnea index in obstructive sleep apnea?

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Introduction: Several studies proved that obstructive sleep apnea (OSA) is associated with cardio-vascular diseases such as cardiac arrhythmia. QT duration and dispersion reflect the heterogeneity of ventricular repolarization and are considered as precursors of ventricular arrhythmia

Aim: The aim of this study is to assess the relation between the severity of OSA parameters as apnea hypopnea index and QT intervals.

Methods: Forty patients (18 men and 22 women) who were diagnosed with OSA by overnight polysomnography were included in this prospective study. The mean age was 56 ± 10 years old. They were all in sinus rhythm. Before initiating continuous positive airway pressure therapy, we calculated on a 12 lead ECG: QT duration (QTend) corrected to Bazett formula and QT dispersion (QT end max -QT end min).

Results: Twenty four patients had severe OSA (AHI >30), 4 had moderate OSA (AHI between 15 and 30) and 12 had a mild OSA (AHI between 5 and 15). There was a significant positive correlation between QT dispersion and AHI ($r=0.48$, $p=0.001$)

Conclusion: The severity of OSA seems to be correlated with ventricular repolarization heterogeneity. These results suggest that the higher is the AHI the higher is the risk of ventricular arrhythmia occurrence. Further studies are needed to validate these results.

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Atrio-ventricular electromechanical correlates in systolic heart failure with wide QRS.

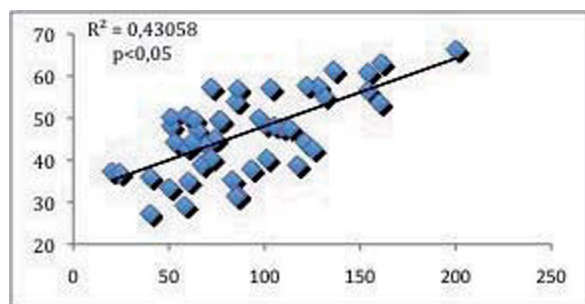
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Background: Electromechanical correlates at the atrio-ventricular (AV) level remain poorly investigated in patients with dyssynchronised systolic heart failure (HF). The aim of the present study was to assess the exact prevalence and the electrical determinants of AV mechanical dyssynchrony in the left heart, in this patient population.

Methods: Prospective observational study of 49 HF patients with stable sinus rhythm and wide QRS complex (mean: 160 ± 19 ms), all scheduled for CRT device implantation. 12% were in NYHA class II, 85% in NYHA class III. Mean PR interval was 200 ± 40 ms, mean LV ejection fraction = $26 \pm 5\%$. Left AV dyssynchrony (LAVD) was defined as LV filling time (LVFT) <40% RR interval on transmitral flow at doppler-echocardiography. PR interval, P wave duration, P'R interval (interval between P wave termination and QRS onset), QRS duration and QRS morphology (type of bundle branch block) were investigated as possible predictors of LAVD. Correlations between LVFT and ECG intervals were assessed by linear regression.

Results: LAVD was present in 13 patients (26,5). P wave duration, PR interval and QRS morphology had no predictive value for LAVD. In contrast, a significant correlation was observed between LVFT and P'R interval ($P < 0,005$) and QRS duration ($p=0,001$).

Conclusions: Evidence of resting LAVD is observed in 26,5% patients with a CRT guideline indication. QRS duration and the P'R interval but not the PR interval are significant determinants of LAVD. These data may be of practical importance for optimal programming of CRT devices.



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Correlation between P wave variables and apnea-hypopnea index in obstructive sleep apnea

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Introduction: Obstructive sleep apnea (OSA) is associated with several cardio-vascular abnormalities as atrial fibrillation (AF). AF occurrence in OSA increases the risk of stroke which worsens the prognosis of these patients. P wave dispersion (Pd) and maximal P wave duration (P max) are simple electrocardiographic parameters which reflect atrial conduction abnormalities and have been reported to be predictors of atrial fibrillation

Aim: the aim of this study is to determine the correlation between apnea-hypopnea index (AHI) and P wave dispersion and maximal P wave duration.

Methods: Forty patients (18 men and 22 women) who were diagnosed with OSA by overnight polysomnography were included in this prospective study. The mean age was 56 ± 10 years old. They were all in sinus rhythm. Before initiating continuous positive airway pressure therapy, we evaluated on a 12 lead ECG P wave duration and P wave dispersion (P max – P min).

Results: Twenty four patients had severe OSA (AHI >30), 4 had moderate OSA (AHI between 15 and 30) and 12 had a mild OSA (AHI between 5 and 15). Mean P max duration was 119 ± 21 ms. P wave dispersion was 93 ± 6 ms. There was a significant positive correlation between P max and AHI ($r=0.45$, $p=0.001$) and between P wave dispersion and AHI ($r=0.42$, $p=0.001$)

Conclusion: The severity of OSA seems to be correlated with the importance of atrial conduction abnormalities. These results suggest the higher is the AHI the higher is the risk of AF occurrence in OSA. Further studies are needed to validate these results.

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Clinical and Genetic Characteristics of Brugada Syndrome in a Tunisian Population

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Background: The Brugada syndrome (BS) is a clinical entity involving cardiac sodium channelopathy, typical electrocardiogram (ECG) changes and predisposition to ventricular arrhythmia. This syndrome is mainly recognized by specialized cardiologists and electrophysiologists. Data regarding BS largely come from multicentre registries or Asian countries. The objective of this study was to investigate the clinical characteristics and prognosis of native Tunisian subjects with the Brugada-type ECG pattern (BS)

Methods and results: BS has been diagnosed in 10 patients (9 men, 1 woman, mean age 38 ± 11 years) at the department of cardiology Sfax since January 2002. Patients were referred from primary care physicians for ECG abnormalities, syncope or ventricular arrhythmia, or were diagnosed incidentally on an ECG obtained for other purposes. Nine patients had had an episode of syncope, dizziness or chest pain, 1 patient was asymptomatic at diagnosis and any patients survived sudden cardiac death. The electrocardiographics (ECGs) of all patients showed spontaneous ST-segment elevation in leads V1–3 at baseline and 8 patients (80%) showed transient normalization of the ST-segment elevation during follow-up. Two patients had a family history of sudden cardiac death at younger than 45 years of age. No patient has been found to have a mutation in the SCN5A gene. An implantable cardioverter-defibrillator was implanted in four patients (40%), including the patient with a history of syncope. No event occurred in our population after a mean follow-up of 26 ± 29 months.

Conclusions: BS is present in the Tunisian population and is probably under-recognized. Long-term prognosis of individuals with BS, especially in sporadic, asymptomatic cases, needs to be clarified.