1066-89 Quantification of Baroreflex Sensitivity by FINAPRES in Patients After Myocardial Infarction: The ATRAMI Experience

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Analysis of baroreflex sensitivity (BRS) is of prognostic relevance in patients after myocardial infarction (MI). One possible limitation with the use of vasoactive drugs (e.g. phenylephrine), is the need of an accurate beat-to-beat blood pressure recording. The use of FINAPRES (FINger Arterial PRESsure) has overcome the major drawback of an arterial line, however the accuracy of the performance has been validated only in small size populations. The ATRAMI (Autonomic Tone and Reflexes After Myocardial Infarction) study, has provided the unique possibility of a large scale validation in post-MI patients. Out of 1284 patients enrolled in Europe, USA and Japan, 1195 underwent BRS assessment by phenylephrine injection at a mean of 16 ± 9 days after MI. No side effects were reported. All tests have been centrally analyzed by two independent observers. In 620 out of 1182 tests blood pressure was obtained simultaneously from the radial/brachial artery and by FINAPRES. The mean value of BRS was 7.0 ± 3.1 and 7.4 ± 1 ms/mmHg for the invasive and noninvasive measure respectively. No significant difference was noted in the extent of change in systolic blood pressure after phenylephrine injection (20 ± 10 mmHg invasive vs 20 ± 10 mmHg noninvasive). The linear correlation between invasive and noninvasive BRS was high ($r = 0.91$, $p < 0.001$) and it remained high ($r = 0.94$) when considering patients with a reduced LVEF (≤ 35%). Sensitivity and specificity of the noninvasive method in identifying patients with a markedly depressed BRS (< 3 ms/mmHg) as assessed by the invasive technique were 93% and 96%, respectively; total accuracy was 95%.

In conclusion: In a large population of patients after myocardial infarction, noninvasive blood pressure recording by FINAPRES allows an accurate quantification of baroreceptors reflexes even in patients with a depressed Baroreflex Sensitivity and a reduced Left Ventricular Ejection Fraction.

1067 Atrial Fibrillation/Flutter

Wednesday, March 19, 1997, Noon–2:00 p.m.
Anaheim Convention Center, Hall E
Presentation Hour: Noon–1:00 p.m.

1067-90 Failure of Multi-Site High Frequency Burst Pacing to Terminate Laboratory Induced Acute Atrial Fibrillation

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Experimental and clinical studies have demonstrated local capture and regional entertainment are possible in atrial fibrillation. (AF) Previous studies have reported single site high frequency (50) burst pacing (HFP) effective in terminating acute AF. As multiple wavelets are required to maintain AF, multi-site HFP may be more effective for pace-termination. The following study was undertaken to evaluate multi-site HFP for termination of acute AF. *Methods:* 13 pts undergoing radiofrequency (RF) ablation for paroxysmal supraventricular arrhythmias were studied. Quadripolar catheters were placed in the high right atrium (HRA), mid atrial septum (MAS), and coronary sinus (CS). AF was induced by rapid pacing from the HRA and sustained for 10 minutes. HFP was performed simultaneously at all 3 sites for either 1 or 5 sec followed by 10 sec of monitoring. In random order pacing attempts at 10 ma or subthreshold (STHR) ma were each repeated 4 times. Intracardiac bipolar electrograms and surface ECG leads were recorded. AF was classified by Waldo criteria using the HRA electrogram. Local acceleration was diagnosed at the HRA site if there was a 25% shortening of cycle length of type I-II AF or conversion to type III-IV AF post pacing. *Results:* Conversion of AF was not seen during 1 sec HFP at 10 ma or STHR outputs. Conversion of AF occurred in 1 of 12 pts at 10 ma and 4 of 9 pts at STHR output (P = 0.163). Local acceleration was seen in 66% of 1 sec 10 ma attempts vs 22% of 1 sec STHR attempts (P = 0.047). Local acceleration was seen in 79% of 5 sec 10 ma attempts vs 15% of 5 sec STHR attempts. (P = 0.036) *Conclusions:* 1. Local acceleration often occurs during 10 ma HFP. 2. Despite evidence of penetration of the excitable gap multisite HFP is ineffective for terminating acute atrial fibrillation. Local reinduction of AF may be responsible.

1067-91 Do individual patients exhibit a consistent pattern of onset of paroxysmal atrial fibrillation?

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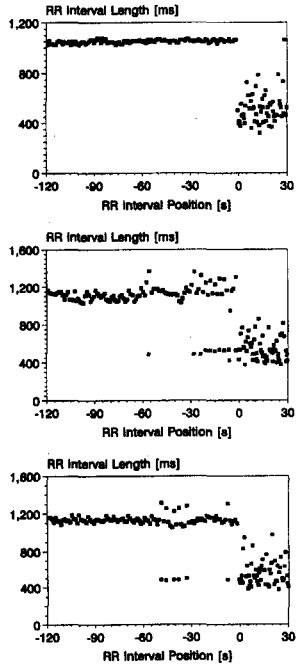
Introduction: Some evidence suggests that in those who suffer from paroxysmal atrial fibrillation, the onset of AF is associated with bradycardia, tachycardia, or ectopic activity. *Methods:* From our database, we identified 5 patients in whom we had recorded a large number of noise free AF episodes lasting at least 30 seconds. *Results:* Each individual had between 8 and 33 episodes (total 100). The number of ectopic beats increased in 28% of cases but fell in 2% of episodes, and heart rate at onset varied from 43 to 96 (mean 70 bpm). No patient exhibited a consistent pattern of change. The heart rate remained the same or accelerated in roughly equal numbers of episodes (56 and 34 respectively), but slowed in only 10 episodes. Figures show representative tachograms from one Holter tape.



Conclusion: In patients who have frequent episodes of PAF, episodes tend to be preceded by increasing ectopic activity and often by an increase in the heart rate, but do not show a consistent change.

1067-92 Effect of Different Sites of Atrial Pacing on Local Atrial Conduction Delay in Patients with Atrial Fibrillation

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Patients with atrial fibrillation [AF] have exaggerated intra-atrial conduction delays [CD] in response to atrial premature beats [APBs] and may lead to initiation of AF. The effect of different sites of pacing on local atrial CD may have important implication on the optimum site of atrial pacing for preventing AF. We studied 8 patients [pts] with AF of mean duration of 16 ± 9 months, mean age 61 ± 16 yrs, mean LV ejection fraction 54 ± 13%, mean LA size 4.7 ± 1.5 cm, who underwent transvenous atrial defibrillation for cardioversion of AF. After successful cardioversion, atrial pacing at a drive cycle of 500 ms followed by programmed APBs was performed from 4 different sites (high RA [HRA], low RA [LRA], distal coronary sinus [CS] & HRA + distal CS) until the atrial ERP was reached. The incremental CD time was measured as the difference between CD [A_1] with drive [S_1] & CD [A_2] with APBs [S_2] (i.e. $A_1A_2 - S_1S_2$) at HRA, LRA, His, CSos and distal CS at 10 ms before atrial ERP. *Results:* Incremental CD time was longest over His and/or CSos region

Pacing Site:	HRA	LRA	His	CSos	Distal CS
HRA (ms)	15 ± 16	34 ± 15	55 ± 25*	51 ± 24*	52 ± 25*
LRA (ms)	34 ± 20	24 ± 20	39 ± 15	41 ± 19	40 ± 15
Distal CS (ms)	49 ± 23	54 ± 27	57 ± 25	50 ± 27	32 ± 26
HRA + Distal CS (ms)	21 ± 16	20 ± 13	39 ± 14	26 ± 15	13 ± 9

*p value < 0.05 as compared with HRA (ANOVA).