

RECURRENCE OF ATRIAL FIBRILLATION AFTER SUCCESSFUL CARIOVERSION WITH TRANSVENOUS ATRIAL DEFIBRILLATION IS ASSOCIATED WITH PROLONGED P WAVE
H.F. Tse, N.S. Lok, Z.Y. Jiang, C.P. Lau. Division of Cardiology, Dept. of Medicine, University of HK, Queen Mary Hospital .. Hong Kong.

Introduction: The alterations in P wave duration (PWD) is a surface manifestation of changes in atrial conduction times. The present study is to determine the relationship between PWD and the recurrence of atrial fibrillation (AF) after transvenous low energy defibrillation (TADF).

Methods: TADF was performed using 3/3 ms biphasic R-wave synchronous shocks delivered between catheters in the right atrium and coronary sinus in 16 patients (pts) with chronic AF (means AF duration: 16 mths). The mean PWD of 5 consecutive beats immediately after successful TADF and 1 minute post-TADF or immediately before AF recurred were measured manually on lead II of surface ECG (at 50 mm/s).

Results. Totally 39 episodes of successful TADF were recorded (mean voltage: 333 ± 62 V). In 23/39 (59%) episodes, AF recurred within 1 minute. The mean PWD immediately after TADF in those episodes with recurrence of AF were significant longer than those without (139 ± 13 ms vs 129 ± 16 ms, $p=0.035$). For episodes with recurrence of AF, PWD was significantly prolonged after electrical shock, but remained stable for those without (6.5 ± 1.1 ms vs 0.4 ± 0.8 ms, $p=0.029$) No difference in shock voltage on PWD nor between episodes with or without recurrence of AF (328 ± 57 V vs 329 ± 68 V, $p=NS$).

Conclusion. In episodes of AF that recurred, there was significant prolongation of PWD after TADF which was independent on the shock voltage but may be related to a temporary increasing dispersion of atrial conduction time.

PATHOPHYSIOLOGICAL ELEVATION OF PLASMA ADRENOMEDULLIN LEVEL IN HYPERTENSION, CARDIAC, RENAL AND HEPATIC FAILURE. B Cheung, R Leung. University Department of Medicine, University of Hong Kong, Hong Kong

Adrenomedullin (AM) is a recently discovered peptide first isolated from pheochromocytoma and adrenal medulla but is also present in plasma. Intravenous infusion of AM in animals lowers systemic vascular resistance and blood pressure, and causes natriuresis and diuresis. AM may also have a paracrine function because endothelial and vascular smooth muscle cells synthesise AM as well as express its receptors. Its role in man is as yet unclear.

We developed a specific radioimmunoassay (lower limit of detection 1pg/tube, intra-assay coefficient of variation 7%) and measured plasma AM immunoreactivity in 31 male subjects:

	n	mean \pm standard error
normal	6	11.4 ± 0.9 pmol/l
essential hypertension	6	17.3 ± 2.1 pmol/l
congestive heart failure	7	16.8 ± 2.1 pmol/l
liver cirrhosis with ascites	5	17.6 ± 2.1 pmol/l
chronic renal failure	7	19.5 ± 3.2 pmol/l

Plasma AM level in patients with hypertension, heart failure, cirrhosis and renal failure were raised compared to controls ($p<0.05$). These results suggest that AM may have a pathophysiological role in hypertension and volume overload.