Impact of accessory pathway ablation on the risk of atrial fibrillation
in patients with overt conduction and patients with concealed conduc-
tion over accessory pathway

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Purpose of the study: to evaluate the impact of accessory pathway (AP) ablation on
the risk of subsequent atrial fibrillation (AF) of patients with a pre-
excitation syndrome (PS) and patients with a normal ECG but with AV re-
entrant tachycardia (AVRT) over a concealed AP.

Methods: 103 patients were studied: 93 patients, mean age 41±16 years,
with a PS presented with a well or poorly-tolerated AF (group I). They were
issued from a group of 905 patients (10%) with a PS (mean age 34±17 years).
Ten patients, mean age 50±21, with a normal ECG in sinus rhythm and with
AVRT were referred for AF (group II). They were issued from a group of 303
patients (3%) with AVRT and a normal ECG (mean age 42±18 years).
Electrophysiological study was performed in control state and after isoproterenol.
Patients were followed from 3 months up to 20 years.

Results: The incidence of AF at the admission was higher in PS than in
patients with concealed AP (p<0.0001). In group I, a re-entrant tachycardia
was induced in 59 patients (63%). AF was induced in 65 patients (70%).
In group II AF was induced in 4 patients (40%)(p<0.006). AF ablation was
performed in 75 group I patients (81%) and 7 group II patients (70%) (NS).
After a mean follow-up of 3±2 years, 17 group I patients (18%) presented AF recur-
rence, despite AF ablation performed in 13 of them. In patients with a PS but
without AF at admission, AF occurred only in 14 patients (2%)(p<0.0001).
Three group II patients (30%) were AF ablation was performed had AF recurrence.
In patients with AVRT, normal ECG and no history of
AF, only occurred in 3% (9/293). The differences were highly significant
(p<0.0001).

Conclusions: AF incidence at the admission was higher in patients with a
PS than in patients with concealed AP (p<0.0001). After ablation, AF risk
remained higher in patients with PS and AF than in patients with PS without
AF at the admission (18 vs 2%). However the risk of recurrence of AF despite
AP ablation was lower than in patients with a concealed AP. These last
patients also remained at high risk to have AF after ablation compared to
patients with a concealed AP and without AF.

Incidence and predictors of new-onset atrial fibrillation in septic
shock patients in a medical ICU: data from 7-day Holter ECG moni-
toring

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Objectives: New-onset atrial fibrillation (NAF) is a common complication
of septic shock and incidence is underestimated. We sought to investigate
the real incidence, associated risk factors for NAF, and its prognostic impact
during septic shock in patients hospitalized in a medical Intensive Care Unit
(ICU).

Design: Prospective, single-center, observational study.

Setting: Medical ICU in a large university teaching hospital.

Patients: All consecutive patients presenting between March 2011 and
May 2013 with septic shock were eligible for inclusion, with the following
exclusion criteria: patients aged <18 years, prior history of AF (paroxysmal
or sustained), and patients transferred from another ICU with prior septic
shock.

Intervention: After inclusion, all patients were equipped with long-dura-
tion Holter ECG monitoring for 7 days. Measurements and Main Results:
NAF was defined as an AF episode lasting more than 30 seconds. Patient
characteristics, infection criteria, cardiovascular parameters, severity of ill-
ness, medical and technical support therapies were recorded.

Among 66 patients, 29 (44%) developed NAF; 10 of which (34%) would
not have been diagnosed without Holter ECG monitoring. NAF patients were
older, and more often presented markers of heart failure, i.e. higher troponin
and NT-pro-BNP levels associated with lower left ventricular ejection fraction
(LVEF), as compared to patients who remained in sinus rhythm. NAF patients
also had longer QRS duration and more often presented nonsustained supra
ventricular arrhythmias (<30s) on the first day. In a multivariate model, only
age (OR: 1.06; p=0.01) and LVEF<45% (OR: 13.01, p=0.03) remained asso-
ciated with the occurrence of NAF. However, NAF was not an independent
predictor of 28 or 90 day mortality.

Conclusion: This is the first study to examine the exact incidence and
risk factors of NAF in septic shock patients. NAF is common, especially
in older patients, and is associated with low ejection fraction. We did not
find NAF to be independently associated with higher mortality in this
study.

Long-term success with magnetic navigation catheter ablation in
patients with persistent and longstanding persistent atrial fibrillation

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Introduction: Different techniques in catheter ablation (CA) of Persistent
(Pers) and longstanding (LS) Pers AF have been described with variable out-
comes. We report long-term results in a series of Pers AF patients who under-
went CA with magnetic navigation (MN).

Methods: We prospectively included 50 patients (pts; 43 males;
61±10 y) referred for CA of Pers AF. Pers and LS Pers AF were defined
according to published guidelines. Freedom from AF was defined as the
absence of symptomatic or ECG/Holter documented AF after ablation. All
pts underwent stepwise CA using MN: circumferential pulmonary veins
isolation, bi-atrial complex fragmented electrogroms ablation, roof ± left
isthms ± cavo-tricuspid isthms lines. Atrial tachycardia (AT) occurring
during CA were also targeted.

Results: Total duration of AF history was 56±42m (range 4-12y,
median 48m). Mean duration of continuous AF was 8±12m (range 1-84m,
median 5.5m; 18% LS and 82% Pers AF). AF was lone in 50%.
LA size was 30±5cm², CT-scan volume 139±51ml. Procedures’ duration was
256±56 minutes with a fluoroscopy time of 13±5 min. RF time was
47±27 min. AF stopped without electrical cardioversion in 17 pts (34%;
sinus rhythm in 8 and AT in 9). A redo CA for recurring AF was per-
formed in 6 pts (12%). Complications (4 pts) resolved w/o sequellae: acute
coronary syndrome (1), pericardial effusion (1), AV fistula (1) and intra-
alveolar haemorrhage (1). After 19±9±5m (range 6-40, median 17.5m),
with 1.1 procedures/pt, 40 pts (80%) had no AF recurrence, of which 28
were off AAD and 12 remained on AAD. Incidence of postablation AT
was 12% (6/50).

Conclusion: Magnetic navigation for Pers AF ablation yields excellent
(80%) long-term (20m) prevention of AF recurrence (figure next page).