

41 BLOOD PRESSURE MEASUREMENT IN ATRIAL FIBRILLATION: IS THERE A NICHE FOR BRACHIAL CUFF AND SUPRASYSTOLIC ALGORITHMS?

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Introduction Blood pressure (BP) is routinely measured by the automated sphygmomanometer. Accurate assessment of BP in patients (pts) with atrial fibrillation (AF) is crucial but impossible due to beat-to-beat variability of stroke volume and significant BP fluctuation preventing consistent assessment of Korotkoff sounds. The PulseCor R6.5 (PC) detects arrhythmia and pulse pressure fluctuations, utilising suprasystolic waveform algorithms to estimate central BP and allows assessment of arterial stiffness, a risk factor for AF. We analysed the accuracy of (i) manual sphygmomanometers, (ii) automated sphygmomanometers and (iii) the PC against continuous invasive BP monitoring via inserted radial cannulae (the gold standard).

Methods 10 pts (6 controls in sinus rhythm (SR) and 4 in AF) aged 23–76 (70% male) were identified with arterial lines *in situ*. Adjustment to atmospheric zero was performed prior to each BP measurement. Non-invasive BP measurements were taken immediately following the invasive BP measurement in a randomised sequence and this was repeated three times in each pt.

Results See Table 1.

The PC is the only accurate non-invasive assessment of systolic BP in AF pts, better than both automated and manual sphygmomanometers ($p=0.02$ and 0.015 , respectively). In SR the manual sphygmomanometer is more accurate assessing systolic BP than the PC and automated sphygmomanometer ($p=0.003$ and 0.04 , respectively).

Conclusions Accurate non-invasive BP assessment in AF is essential and is superior in pts with this arrhythmia using the

PC with suprasystolic algorithms but not in SR where the manual sphygmomanometer is best.

42 HOW HARD DO WE LOOK FOR ATRIAL FIBRILLATION?

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Brief introduction Identifying atrial fibrillation (AF) after ischaemic stroke changes the recommendation from antiplatelets to anticoagulation. Currently, there is no clear consensus on the duration of rhythm monitoring post stroke. EMBRACE and CRYSTAL AF have shown that prolonged monitoring is superior to standard management in identifying AF. In our study, we aim to identify the percentage of patients who get referred for implantable loop recorder (ILR) by providing real-world data from The Ipswich Hospital.

Methods We identified all patients diagnosed with an ischaemic stroke (101) or TIA (71) to The Ipswich Hospital between 1st June 2015 and 31st August 2015. The medical records, hospital admission, follow-up records and investigations were reviewed.

Results Table 1 shows the patient characteristics of 101 patients with stroke and 71 patients with TIA.

Figure 1 shows the investigations of stroke patients. All patients had an admission ECG. In 53 out of 71 patients in sinus rhythm on admission, identifying AF would change management. We excluded patients already anticoagulated for other reasons and patients who died or were deemed candidates for palliative care only. Out of those 53 patients, 39 (73.5%) had 24h tape, telemetry or pacemaker check and 7 (17.9%) had new AF. 13 patients (24.5%) did not have 24h tape. There was a tendency for patients with lacunar strokes not to get screened for AF. However, the detection rate of AF is similar between lacunar and non-lacunar strokes (fig 1).

Figure 2 shows the investigations of TIA patients. All patients had an ECG. In 61 out of 63 patients in sinus

Abstract 41 Table 1 The accuracy of (i) Manual Sphygmomanometer (ii) Automated Sphygmomanometer (iii) PulseCor R6.5 in Atrial Fibrillation and Sinus Rhythm

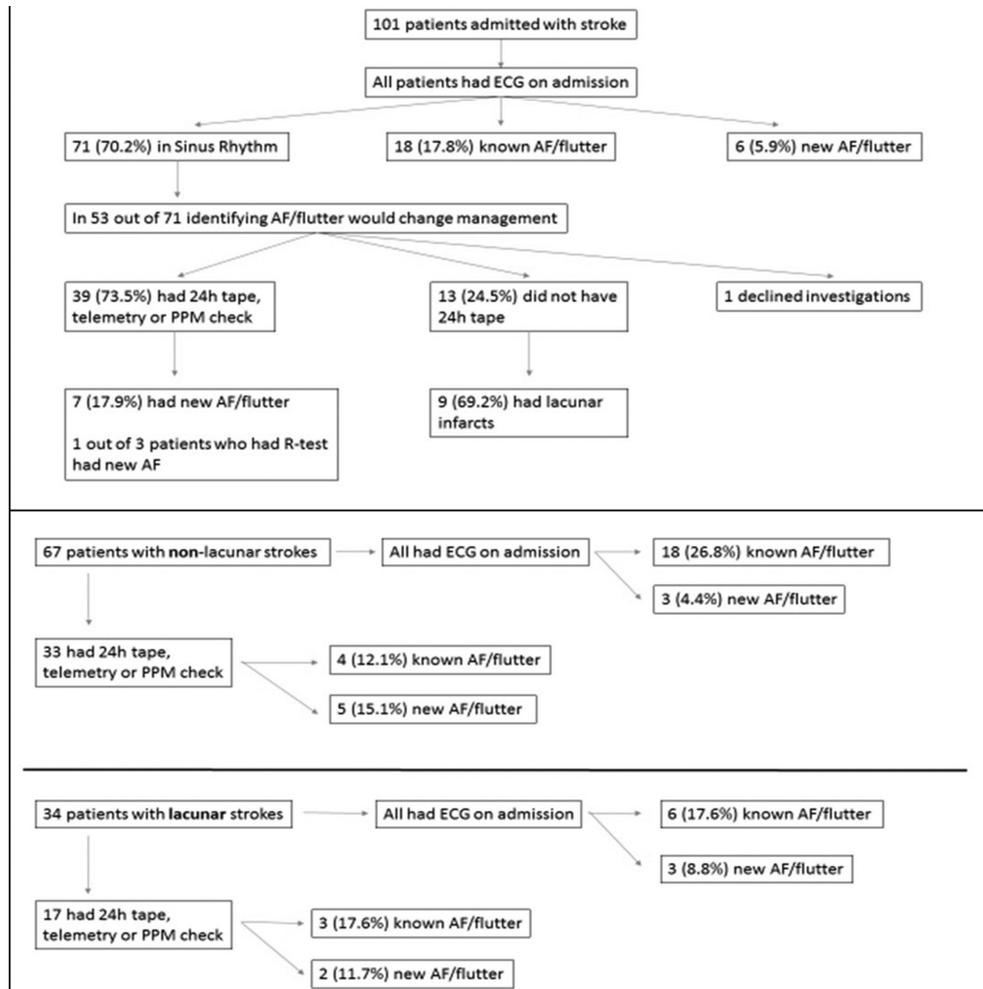
	Atrial Fibrillation			Sinus Rhythm		
	Manual	Automated	PulseCor R6.5	Manual	Automated	PulseCor R6.5
Mean difference of SBP compared with invasive SBP	18.14(±10.335)	16.00(±7.0234)	6.71(±4.386)	5.14(±4.704)	10.86(±7.066)	9.45(±4.217)
Mean difference of DBP compared with invasive DBP	4.43(±2.76)	6.57(±5.682)	6.43(±4.541)	5.82(±3.788)	5.18(±4.5)	6.36(±4.593)
P Value- Manual vs PC		SBP 0.020* DBP 0.039			SBP 0.003** DBP 0.670	
P Value- Automated vs PC		SBP 0.013* DBP 0.959			SBP 0.426 DBP 0.394	
P Value- Manual vs Automated		SBP 0.661 DBP 0.387			SBP 0.003** DBP 0.614	

* The PulseCor R6.5 provides a more accurate assessment of true SBP in AF pts utilising invasive arterial monitoring as a gold standard

** The manual sphygmomanometer provides a more accurate assessment of true SBP in sinus rhythm pts utilising invasive arterial monitoring as a gold standard

Abstract 42 Table 1

	Patients admitted with stroke	Patients diagnosed with TIA
Number of patients	101	71
Age (mean, range in years)	78.3, (45-99)	75, (48-93)
Hypertension	76, (75.2%)	50, (70.4%)
Diabetes	26, (25.7%)	17, (23.9%)
Smoking	18, (17.8%)	26, (38%)
Hyperlipidaemia	51, (50.4%)	38, (53.5%)
Ischaemic heart disease	10, (9.9%)	12, (16.9%)
Previous stroke/TIA	27, (26.7%)	16, (22.5%)



Abstract 42 Figure 1

rhythm, identifying AF would change management (2 patients were already anticoagulated). 41% of these patients did not have 24h tape.

Conclusion We did not identify any patients who got referred for ILR. We identified a significant proportion of patients with stroke or TIA who did not have 24 hour tape, 24.5% and 41% correspondingly. We would propose to consider an ILR in patients with ischaemic stroke or TIA who are <60 years old with normal ECG, 24 hour tape, US/MRA carotids especially if they have recurrent episodes or multiple territories are involved. If we apply these criteria, we would recommend 40 extra ILR implantations per year in our medium sized hospital.

We also identified a tendency for patients with lacunar strokes not to get screened for AF even though the detection rate of AF is similar between lacunar and non-lacunar strokes. The relationship of lacunar strokes with AF is the subject of an ongoing debate in literature. However, the main focus of stroke management should be the identification of modifiable risk factors even when the mechanism of a particular stroke uncertain. As the most recent guidelines (ESC 2016) do not differentiate between ischaemic stroke subtypes when considering anticoagulation in patients with AF, then perhaps an equal effort should be made to identify AF in patients with lacunar and non-lacunar strokes.