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Catheter ablation in adults with Wolff-Parkinson-White syndrome: a "real-life" experience

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Introduction. Radiofrequency catheter ablation (RFA) is 1st line treatment in symptomatic adult patients with Wolff-Parkinson-White syndrome (WPW). Patients with WPW are often quoted a high success rate for RFA but does this reflect reality? There is a paucity of recent literature and ongoing service developments in the UK may have a negative impact on success by reducing individual operator experience of adult WPW cases (i.e. increasing numbers of cardiac electrophysiologists in each department, patients more likely to undergo RFA as children). In contrast, technological developments (e.g. 3D mapping, steerable sheaths) may have a positive impact on success of RFA in WPW.

Methods. We collected data on all patients with WPW scheduled for 1st time ablation between Jan 2006 and Dec 2018. All patients undergoing re-do RFA during this time were excluded. For comparison, we divided this timeframe into three periods: 2006-9, 2010-13 and 2014-18.

Results. The number of patients scheduled for RFA and the outcome is listed in the Table. The overall success rate was 86.5% and this figure remained constant throughout the 13 year time-frame. Significant complications occurred in 1.17% of cases. 19.9% of patients scheduled for an ablation had no ablation attempted for various reasons ('safe' pathway, proximity to AV node etc).

Conclusion. In our centre, the number of adult cases of WPW scheduled for RFA year-on-year remains constant. The complication rate is in line with published literature. The RFA success rate is lower than the published data. As expected, success rate of RFA for WPW varies according to accessory pathway location. 1 in 5 cases scheduled for ablation did not proceed to ablation. This highlights an area where more effective resource planning from the outset can be undertaken.

Table

		2006-9	2010-13	2014-18
Patients scheduled for RFA, n		181	152	179
Patients who underwent RFA, n		162	121	127
Overall RFA success rate, % (n)		85.6 (160)	86.6 (119)	87.4 (127)
Success rate by AP location, % (n)				
Free wall	Left	91.5 (71)	91.8 (49)	95.3 (64)
	Right	76.9 (13)	77.8 (9)	60.0 (5)
Septal	Anterior	77.8 (9)	88.9 (9)	100.0 (4)
	Mid	75.0 (8)	90.0 (10)	66.7 (3)
	Posterior	86.0 (57)	82.9 (41)	79.6 (49)

RFA success rate in patients with Wolff-Parkinson-White syndrome. AP = accessory pathway, RFA = radiofrequency catheter ablation