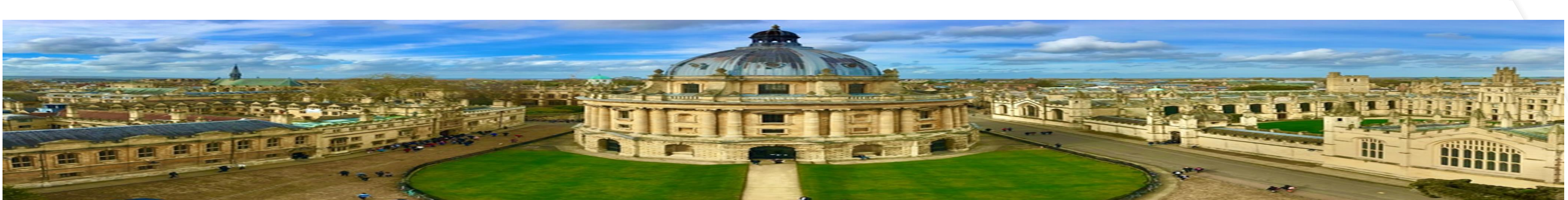


Oxford Heart Centre



Pneumatic Tourniquet In Endoscopic Radial Artery Harvesting

The Oxford Experience On How And When To Do It

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Objectives

Endoscopic radial harvesting (ERAH) is the second most common endoscopic harvesting technique at the Oxford Heart Centre. We are reporting the Oxford experience with the use of pneumatic tourniquet for ERAH along with technical and other considerations.

Method

Prospectively collected data of ERAH were retrospectively analyzed

- 3035 CABG procedure since 2012
- 86 % had EVH and/or ERAH
 - ✓ 528 patients with ERAH
 - ✓ 307 Radial arteries harvested using pneumatic tourniquet

Standardised preoperative assessment using modified Allen’s test with pulse oximetry along with ultrasound scan the radial artery and ulnar artery to determine diameter, flow, anatomical abnormalities, signs of atherosclerotic plaques, identify bifurcation & ensure adequate length.

The ERAH cases were divided into two groups and the results were directly compared. The technique of the tourniquet application along with tips and pitfalls were reviewed.

Results

ERAH was performed in 528 patients of which 307 were harvested using pneumatic tourniquet,

- 2 cases (<1%) had to be converted to open technique
- 17 patients had open radial harvesting.
 - ✓ Average harvesting time for ERAH is 25min and over 40 min under pulsatile flow. 4.2 % ERAH procedure is done without application of systematic heparin of 2.500 IU unless performed simultaneously with the endoscopic vein harvesting.
 - ✓ Average harvesting time for ERAH :
 - early experience was 50min for first 20 cases to improve to 25 min for experienced SCP
 - 15 patients had ERAH with application of pneumatic tourniquet, with Heparin administration, absence of bleeding and harvesting time of 15min.

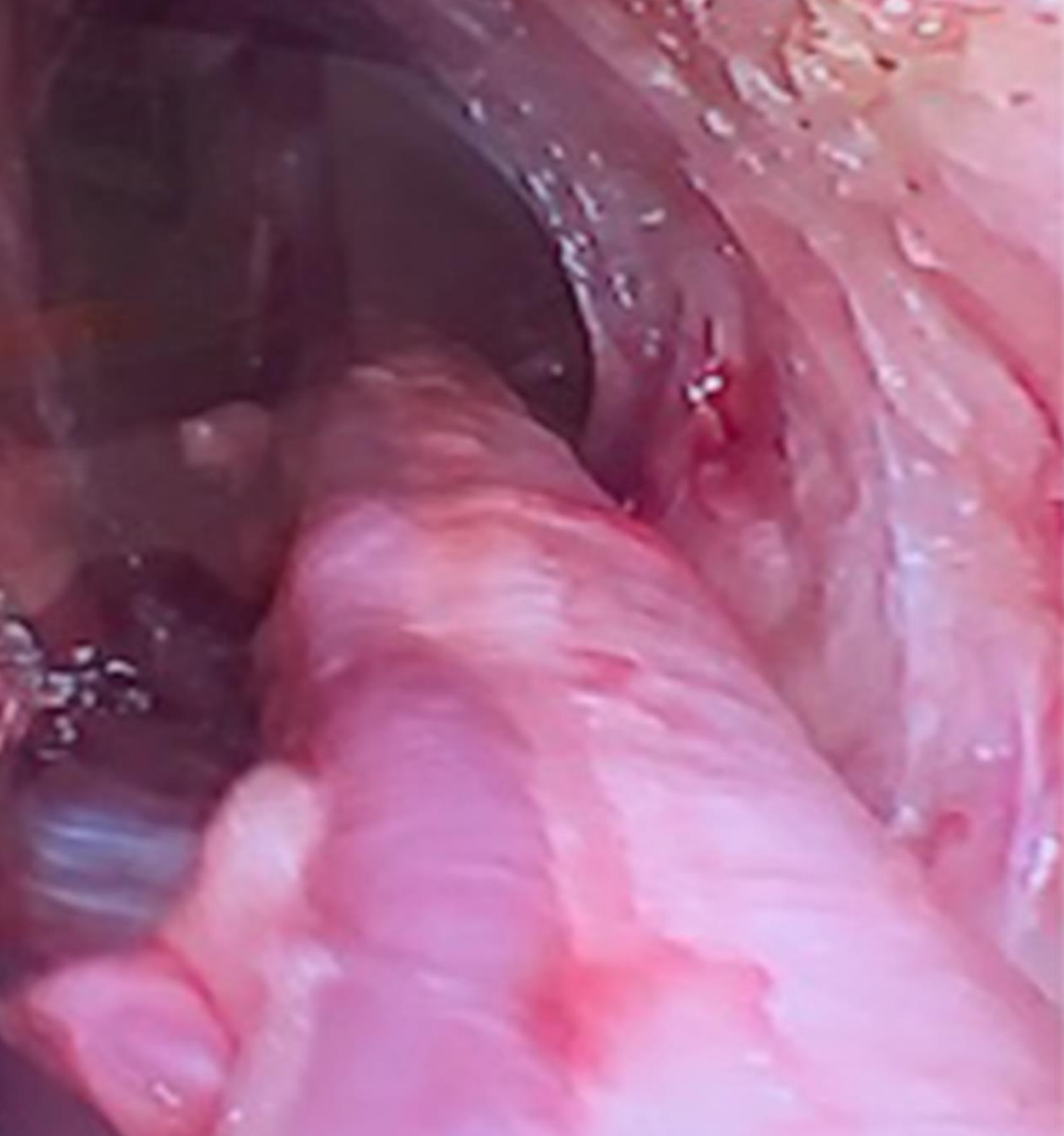
No post-operative compilations were recorded in both groups for past two years. The full indications, technique, and pitfalls in using the tourniquet for ERAH will be presented.

Conclusion

Endoscopic artery harvesting is a safe and reproducible technique. The use of pneumatic tourniquet during ERAH is safe when used appropriately.



Miles, R.H.,et al. (2004), *Journal of Cardiac Surgery*, ; Goudino M. et al.(2018). *J Am Coll Cardiol*.



		tERAH	ERAH
Preoperative considerations	Patient selection	Level of stenosis >70%	Level of stenosis >70%
		Diabetes & Hypertension	Diabetes & Hypertension
	Graft selection	Modify Allen’s test 5-6’	Modify Allen’s test 5-6’
		Doppler ultrasound	Doppler ultrasound
		Non dominant hand	Non dominant hand
Intraoperative factors	Harvesting Duration	15 – 23 min.	35-50 min
	Expertise and training	Easier to train / learn	Steep learning curve
	Wound closure	10 min	20
	Drain insertion	Yes / no	yes
Post-operative	Hematoma	0/15	7/247
	Re opening	0/15	2/247
	Wound infection	0/15	0/247
	Pain / discomfort	0/15	1/15
	Cosmetic result	15/15	15/15
	Problem with sensitivity	3/15	4/15