1 **Heart, Lung & Circulation: Images in Cardiology**

2 Arterial access for invasive coronary angiography: the 'left 3 backhander'

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A 73-year-old male underwent invasive coronary angiography for investigation of ventricular tachycardia 12 years after coronary artery bypass grafting including use of left internal mammary artery. The left distal radial artery was punctured as it traverses inside the anatomical snuffbox (Figure 1A). The sheath insertion near the base of thumb (on the *dorsal* forearm – Figure 1B) is distal to the typical *palmar* radial approach. Most operators prefer the right radial approach (RRA) because it is more ergonomic for them working on the patients' right side. However, a left radial approach is helpful in patients with prior left internal mammary grafting, short stature, short aortic roots, tortuous or aberrant subclavian anatomy. The 'traditional' left radial approach is often painful for both patient and operator. The patient must supinate their arm whilst the operator leans over to manipulate the catheter. This can be particularly challenging in obese patients or those with restricted upper limb movement.

Left distal transradial access (LDTRA) is the source of ongoing clinical trials (NCT03292367) but is gaining traction as a safe, feasible and ergonomic alternative access site.[1] Approaching the radial artery from the dorsal aspect allows the wrist to pronate naturally and the arm can be moved across the body to improve ergonomics for the operator (Figure 1C). Ulnar collateral supply can preserve pulsatility to the distal radial artery in the snuffbox and LDTRA may reduce the need for alternative access sites in case of failed proximal radial punctures. Further suggested benefits include reduced radial artery obstruction at the conventional entry site related to absence of proximal radial artery trauma and prolonged haemostasis[1]. Haemostasis was achieved after 90

minutes compression with a large TR Band® [Terumo Interventional Systems] without the rigid plastic insert. (Figure 1D, online video). Awareness of left-sided 'back-handed' coronary angiography (LDTRA) offers potential benefit to patients and operators.

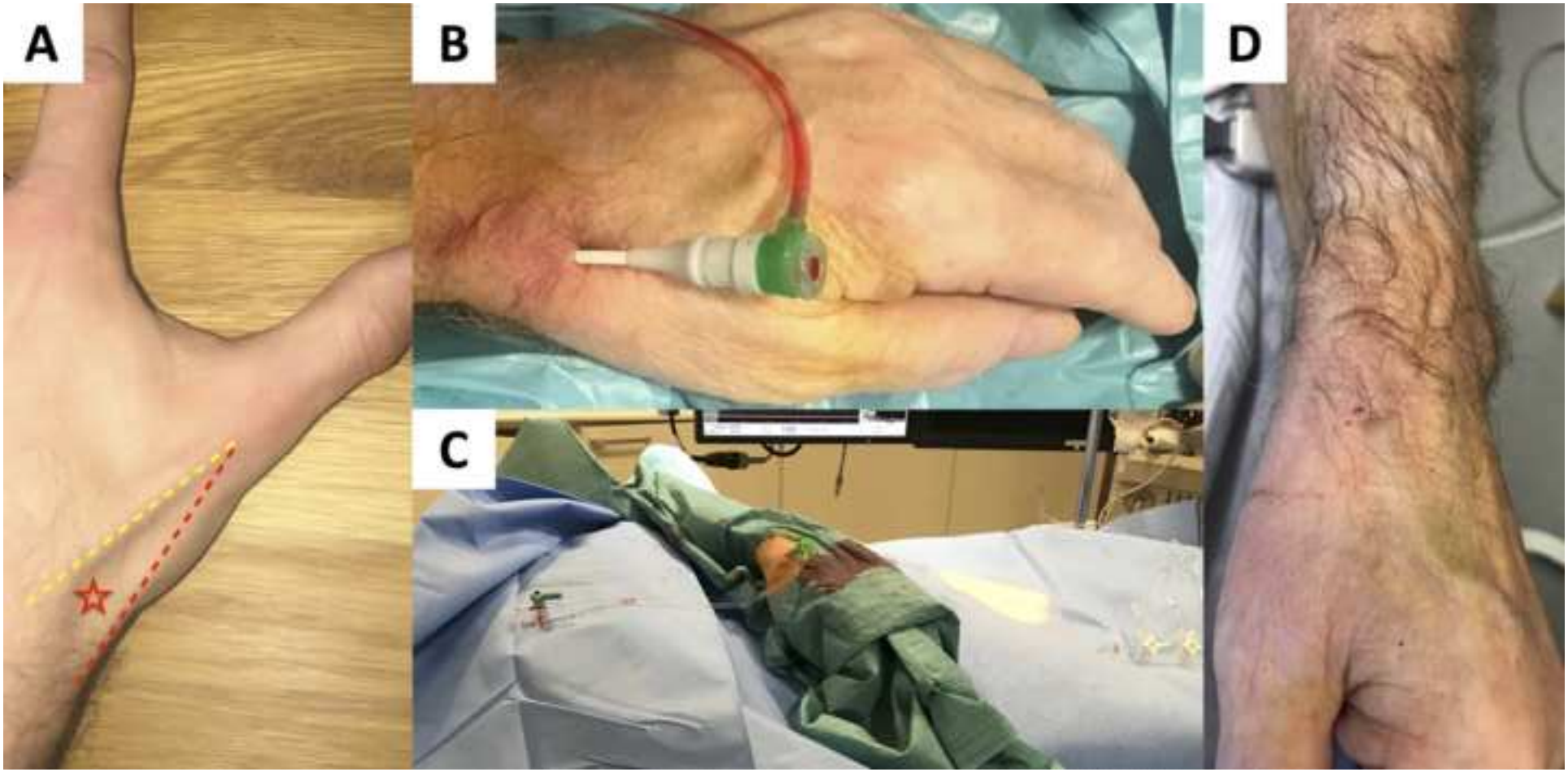
Figure Title – Arterial access for invasive coronary angiography: the left 'back hander'

Figure Legend

Figure 1A – The anatomical snuffbox (star) bordered by the tendons of extensor pollicis longus (yellow line) and extensor pollicis brevis (red dotted line). 1B - The 6F arterial sheath in the left distal radial artery as it traverses inside the anatomical snuffbox. 1C – LDTRA set up with naturally pronated arm across towards operator. 1D – Haemostasis achieved around 90 minutes after sheath removal with large TR Band® [Terumo Interventional Systems] (Online Video).

References

1. Kiemeneij F. Left distal transradial access in the anatomical snuffbox for coronary angiography (ldTRA) and interventions (ldTRI). EuroIntervention 2017;13:851-7.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