FIX-IT LETTER TO EDITOR - REPLY

Aqua Asif[1,2], Hannah Warren[1,2,3], Keiran D. Clement[1,4], Alexander Light[1,5], Vinson Wai-Shun Chan[1,6], Sinan Khadhouri[1,7], Taimur T. Shah[1,5], Veeru Kasivisvanathan[1,2,8], on behalf of the FIX-IT team.

1. British Urology Researchers in Surgical Training (BURST) Collaborative, UK
2. Division of Surgery and Interventional Science, University College London, London, UK
3. Royal Free Hospital Specialist Centre for Kidney Cancer, London, UK
4. NHS Greater Glasgow and Clyde, Glasgow, UK
5. Department of Surgery and Cancer, Imperial College London, London, UK
6. Leeds Institute of Medical Research, University of Leeds, Leeds, UK
7. Health Services Research Unit, University of Aberdeen and Aberdeen Royal Infirmary, Aberdeen, UK
8. Department of Urology, University College London Hospitals Trust, London, UK

We thank Gopal for his views on the management of suspected testicular torsion. This is an area with considerable variation in practice and a consensus statement such as FIX-IT is important in defining what is the accepted standard of care. Consensus guidelines are important in the absence of level 1 evidence; as per our systematic review in this area (1), and was deemed a high priority topic by the urological community and our patient and public group. In the absence of other guidelines on intraoperative decision making, we feel these recommendations will be of value to urologists around the world. FIX-IT focused on the conduct of emergency scrotal exploration and fixation, rather than the diagnostic challenges faced by clinicians as highlighted by Gopal.

To address his points, the panel did not recommend fixation where no torsion is found and there is normal anatomy, to avoid unnecessarily needling a testis which can lead to complications and have putative longer-term sequelae (2,3). Further, data from animal studies support that everting the tunica vaginalis alone is enough to cause adhesions between the tunica albuginea and scrotal wall, preventing future torsion (4). The panel also considered that subdartos pouch fixation in this setting may not be within all adult surgeons' practice so could not be universally recommended. With respect to the comment on testicular compartment syndrome and the use of tunica vaginalis flaps, it was agreed that this was not a widely used technique and there was uncertainty about its role (5).

We agree with Gopal that the proportion of patients undergoing negative exploration is unacceptably high, and a non-invasive diagnostic test to rule in torsion in those with clinical suspicion is a pressing unmet need. Teurneau-Hermansson *et al*. showed that Doppler ultrasound for patients with acute scrotal pain resulted in a reduction in negative scrotal exploration from 75% to 45% (6). Point-of-Care Ultrasound (POCUS) offers a potential solution to avoid delays from obtaining formal departmental ultrasound. Analysis of scrotal POCUS by emergency physicians in Canada in 120 paediatric patients found 100% sensitivity and 99.1% specificity for torsion, and results were available 73 minutes earlier than scans performed by the radiology department (7). However, current evidence is not sufficient to change practice and there are uncertainties on its clinical utility. Uroradiology guidelines (8) currently do not

recommend ultrasound in all patients with suspected torsion, but rather urgent exploration if any clinical finding associated with torsion is present, such as sudden onset of pain, nausea/vomiting and high testicular position. Ultrasound is recommended in those with symptoms greater than 24 hours or atypical examination.

The panel recommended preoperative ultrasound as an acceptable test to aid decision making, but not a mandatory test. We completely agree that in order to avoid unnecessary exploration further prospective research is required to inform the role of POCUS for suspected torsion, and forms the onward work of The British Urology Researchers in Surgical Training (BURST) in the Rapid Evaluation with SCrotal Ultrasound prior to Exploration (RESCUE) study (9).

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Disclosure of Interests

All authors have nothing to declare.

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