

Comment

A cross-section of UK prostate cancer diagnostics during the coronavirus disease 2019 (COVID-19) era – a shifting paradigm?

Luke Stroman¹ , Paul Cathcart¹ , Alastair Lamb² , Ben Challacombe¹  and Rick Popert¹ 

¹Guy's Hospital, London, and ²Nuffield Department of Surgical Sciences, University of Oxford, Oxford, UK

The prostate cancer diagnostic pathway accounts for >50 000 prostate biopsies each year [1]. In an attempt to minimise the transmission of coronavirus disease 2019 (COVID-19), during the height of the pandemic many outpatient and procedural attendances were kept to a minimum in an attempt to safeguard patients and healthcare workers alike.

In the present study, we evaluated the provision of prostate cancer diagnostics in the UK during the peak of the COVID-19 pandemic from 20 April to 20 May 2020. Specifically, we report on national access to prostate MRI, method of prostate biopsy being performed (transrectal [TR] or transperineal [TP]), the type of anaesthesia (local [LA] or general [GA]). In addition, we reveal the prevalence of COVID-19 testing for patients prior to prostate biopsy and use of personal protective equipment (PPE) by clinicians.

Questionnaires were disseminated to urological clinicians from centres throughout the UK over a 30-day period during the COVID-19 pandemic from 20 April 2020 until 20 May 2020 when the number of recorded daily cases of COVID-19 in the UK was at the highest (peak on 1 May 2020) [2]. Data were collected through online software SurveyMonkey. In the case where more than one response was received from a centre, the first response was used for data analysis.

Direct e-mails were disseminated to 268 urologists nationally in 148 centres. In addition, social media links were disseminated making an exact response rate difficult to elicit. In total, 115 responses were received from 105 separate centres throughout the UK (50% of all Urology Units in the UK); 86 from England, three from Wales, three from Scotland, one from Northern Ireland, and 12 centres chose not to disclose their location.

MRI

Prostate MRI was offered in 99% of centres prior to the COVID-19 crisis. During the pandemic 14 (13%) centres stopped performing prostate MRI altogether. While, 39 (37%) continued to offer MRI for the same indications as prior to the pandemic and 48 (46%) offered prostate MRI to selected high-risk patient groups only. Other answers were provided by three (3%) centres; one stated that they offered MRI to all

patients except those aged >70 years, while another stated they were booking all patients for MRI but patients were being cancelled due to reduced access to radiology services (Fig. 1).

Method of Prostate Biopsy

Prior to COVID-19, centres were offering varying forms of biopsy with more than one form of biopsy offered in most centres; LAMP biopsy was offered in 68 (67%), GATP biopsy in 85 (81%), and LATRUS-guided (LATRUS) biopsy in 83 (79%). Of the centres that were offering that method of biopsy prior to COVID-19, LAMP was continued to be offered more (80%) than GATP (36%) or LATRUS (40%) (Fig. 2).

Most centres that continued biopsy during the COVID-19 pandemic did so only on selected higher-risk patients. Of all centres that responded to the survey LAMP was offered for higher-risk patients in 43 (41%), GATP in 23 (22%), and LATRUS in 22 (21%) centres. However, some centres continued to offer biopsies using the same method as prior to the pandemic; LAMP 13 (12%), GATP nine (9%), and LATRUS 12 (11%) centres (Fig. 3).

Pre-biopsy Testing and Isolation

Some 39% of centres required a negative COVID-19 test and self-isolation prior to GA biopsies (TP or TRUS) and 12% for LA biopsies (TP or TRUS). Some centres advised patients to self-isolate prior to their procedure but without COVID-19 testing; 43% for GA biopsies and 34% for LA biopsies. No isolation or testing was performed in 27% of centres offering GA and 45% offering LA biopsy (Fig. 4).

Personal Protective Equipment

We observed variation in the reported PPE use for biopsy procedures; centres performing LAMP used PPE for aerosol generating procedures (defined as filtering facepiece 3 [FFP3] mask, fluid-repellent or surgical gown, gloves and eye protection) in 37%, PPE for inpatient care (defined as fluid-

Fig. 1 Survey results: centres offering MRI during the COVID-19 pandemic (number, percentage).

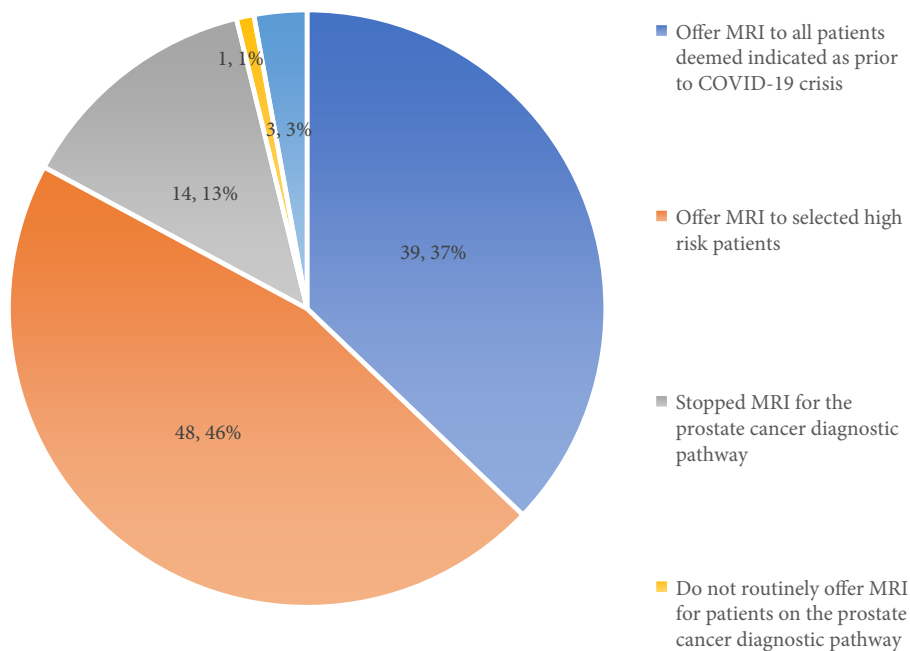
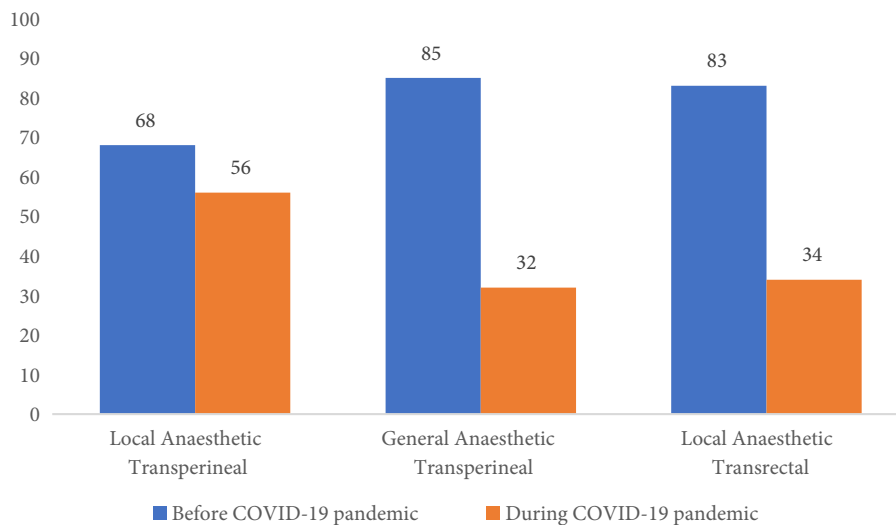


Fig. 2 Survey results: number of centres that performed method of biopsy prior to COVID-19 and continued performing within the COVID-19 pandemic.



repellent mask, apron, gloves and eye protection) in 33%, and PPE for non-aerosol generating procedures (defined as fluid-repellent mask, fluid-repellent or surgical gown, gloves and eye protection) in 31%, while this varied for GATP (64%, 11%, and 25%, respectively) and LATRUS (50%, 39%, and 11%, respectively) (Fig. 5).

Discussion

Comparative rates of GATP and LATRUS biopsy both fell during the COVID-19 pandemic, probably related to the

perceived higher risks of virus transmission through faeces and/or possible exacerbation of asymptomatic upper airway colonisation with intubation and GA. It is also possible that TRUS biopsy use reduced as it is thought to pose a higher risk of post-procedural sepsis than the TP approach [1,3], an important concern during the early stage of the pandemic when intensive care beds were carefully protected. BAUS guidance recommended that both TRUS and any GA procedure should be kept to a minimum during the COVID-19 pandemic [4]. There is also an argument that due to the protracted nature of prostate cancer that withholding all

Fig. 3 Survey results: number of centres surveyed offering prostate biopsy by indication and method during the COVID-19 pandemic.

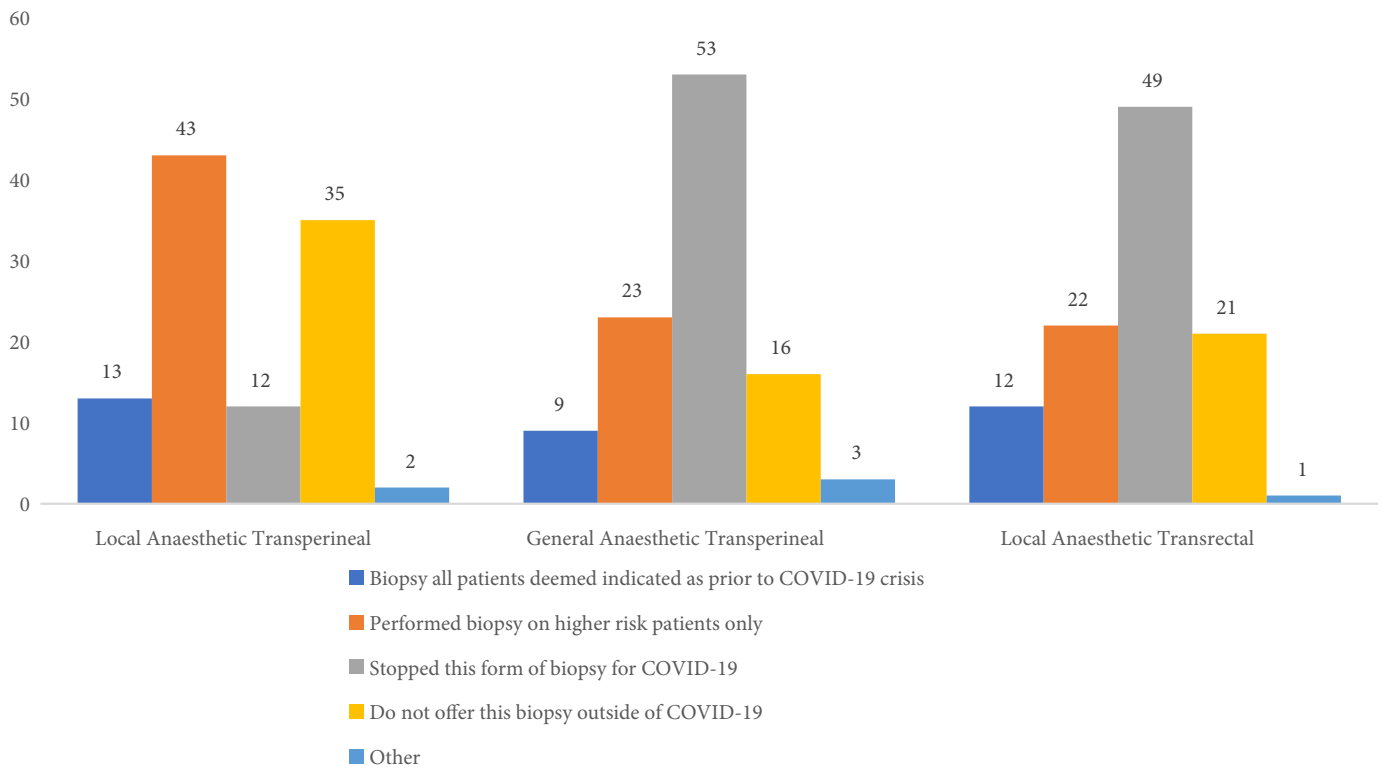
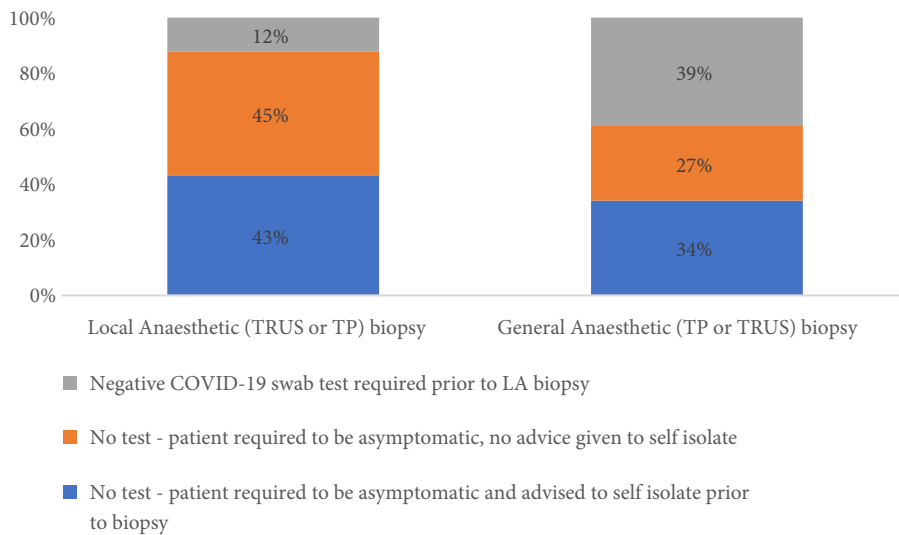


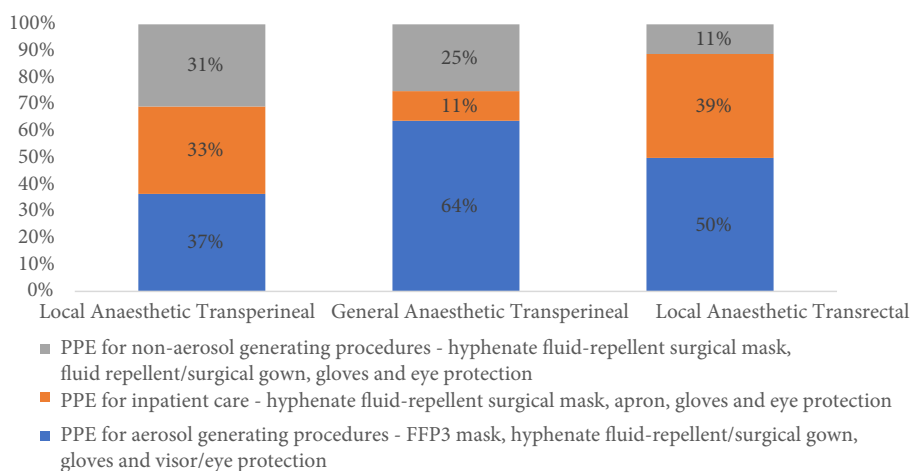
Fig. 4 Survey results: percentage of centres performing pre-procedure testing and isolation prior to LA or GA biopsy.



prostate biopsies may have been reasonable during the peak of the COVID-19 pandemic, although it seems as though most centres were continuing diagnostic biopsy in some form.

The ‘TRexit’ (complete cessation of TRUS prostate biopsies) plan is to move away from TR biopsy and introduce LATP biopsy throughout the UK [5]. There was a shift towards TP

biopsy even before COVID-19; over the last 10 years TR biopsy has outnumbered TP with a 4:1 ratio; however, this has moved to a 2:1 ratio over the last 2 years [1]. Might the COVID-19 pandemic be the trigger that accelerates uptake of LATP perhaps leading to a permanent shift away from TRUS biopsy beyond the pandemic? MRI use in the UK is already a

Fig. 5 Survey results: percentage of PPE by biopsy method.

changing paradigm; 99% stated they use MRI in prostate diagnostic pathway, while it has been reported that 25% of centres were not performing any pre-biopsy MRI in 2016, which reduced to 13% in 2018 [6]. Will the uptake of LAMP follow suit in the changing field of prostate diagnostics?

Our present survey has shown that large differences existed in pre-biopsy testing and isolation advice given to patients throughout the country. This is noteworthy in GA biopsy where guidance exists from the four Royal Colleges of Surgeons (issued on 9 April 2020) that all elective patients with cancer should have been asymptomatic for at least 7 days prior to surgery, have been socially isolating for 14 days with shielding, and have COVID-19 negative naso/oropharyngeal swabs within 48 hours of the procedure [7]. It was therefore surprising that only 39% of centres required a negative test prior to GA biopsy.

There is less national guidance on LA procedures. Heterogeneity in PPE for LA procedures (TP and TR) probably reflects the perception that these are not aerosol-generating procedures. Public Health England guidance states that non-aerosol generating procedures should be performed with a fluid-repellent mask, fluid-repellent surgical gown, gloves and eye protection, while aerosol generating procedures require the same kit with an additional FFP3 mask [8]. There was no specific PPE guidance for LA urological procedures, such as prostate biopsy or flexible cystoscopy, during the COVID-19 pandemic.

This survey is strengthened by the large numbers of centres that responded within a short period of time at the peak of the COVID-19 pandemic. This is likely to give a good 'snapshot' of practice during that time. It should be noted that there were relatively few responses from Scotland, Wales and Northern Ireland, so the survey may not give an accurate picture of practice outside England. In addition, regional incidence of COVID-19 is important and may explain some

of the variance observed in PPE use and pre-procedural testing use, and similarly changes may reflect the policy of a specific centre. The present survey is limited, as does not report the number of procedures performed nationally and is a snapshot over very short period of time. A national audit of method and numbers of diagnostic procedures following the pandemic would be required to delineate if COVID-19 has shifted the paradigm towards LAMP biopsy permanently.

A LAMP biopsy was the preferred method of prostate biopsy by clinicians during the COVID-19 pandemic. More centres stopped GAMP (64%) and TRUS (60%) than LAMP (20%) and a number who would normally use TRUS for primary diagnostics may consider switching to LAMP. It will be interesting to observe whether the COVID-19 crisis triggers adoption of LAMP as the new standard of care in the UK once the pandemic is over.

Conflict of Interest

The authors have no relevant conflicts of interest.

References

- 1 Tamhankar AS, El-Taji O, Vasdev N, Foley C, Popert R, Adshead J. The clinical and financial implications of a decade of prostate biopsies in the NHS: analysis of Hospital Episode Statistics data 2008–2019. *BJU Int.* 2020; 126: 133–41
- 2 Statista. Number of new coronavirus (COVID-19) cases in the United Kingdom (UK) since January 2020 (as of August 30, 2020), by date of report [Online]. Available at: <https://www.statista.com/statistics/1101947/coronavirus-cases-development-uk/>. Accessed August 2020
- 3 Berry P, Parry MG, Sujenthiran A et al. Comparison of complications after transrectal and transperineal prostate biopsy: a national population-based study. *BJU Int* 2020; 126: 97–103
- 4 British Association of Urological Surgeons (BAUS). COVID-19 strategy for the Interim Management of Prostate Cancer. BAUS Section of Oncology, 2020. Available at: https://www.cmcanceralliance.nhs.uk/application/files/2715/9534/0674/COVID-19_BAUS_Oncology_Prostate_final.pdf. Accessed October 2020

Comment

- 5 Grummet J, Gorin MA, Popert R et al. "TREXIT 2020": why the time to abandon transrectal prostate biopsy starts now. *Prostate Cancer Prostatic Dis* 2020; 23: 62–5
- 6 Davies C, Castle JT, Stalbow K, Haslam PJ. Prostate mpMRI in the UK: the State of the Nation. *Clin Radiol* 2019; 74: 894
- 7 **The Royal College of Surgeons of England** Intercollegiate guidance for pre-operative chest CT imaging for elective cancer surgery during the COVID-19 pandemic. Royal College of Surgeons of England, 2020. Available at: <https://www.rcseng.ac.uk/coronavirus/preoperative-chest-ct-imaging-guidance/>. Accessed October 2020.
- 8 **Public Health England**. Recommended PPE for healthcare workers by secondary care inpatient clinical setting, NHS and independent sector. Public Health England, 2020. Available at: [https://madeinheene.hee.nhs.uk/Portals/0/COVID-19%20Infection%20prevention%20and%20control%](https://madeinheene.hee.nhs.uk/Portals/0/COVID-19%20Infection%20prevention%20and%20control%20guidance%20Appendix%20%20%2820_05_2020%29.pdf)

20guidance%20Appendix%20%20%2820_05_2020%29.pdf. Accessed October 2020.

Correspondence: Luke Stroman, Guy's Hospital, Great Maze Pond, London, SE1 9RT, UK.

e-mail: stromanl@doctors.net.uk

Abbreviations: COVID-19, coronavirus disease 2019; FFP3, filtering facepiece 3; GA, general anaesthetic; LA, local anaesthetic; PPE, personal protective equipment; TP, transperineal; TR, transrectal.