SHORT COMMUNICATION

Triage of urology referrals and outpatient service during COVID-19 pandemic: experience from a single centre in Malaysia

William Ong Lay Keat, MRCS[1], Sivaneswaran Lechmiannandan, FRCS[1], Mohd Najib Aziz, MRCS[1], Devindran Manoharan, FRCS[1], Say Bob Lee, FRCS[1], Rohan Malek Johan, FRCS[2]

[1]Department of Urology, Penang General Hospital, Malaysia, [2]Department of Urology, Selayang Hospital, Malaysia

SUMMARY

In Malaysia, COVID-19 pandemic recorded considerable number of cases. Many hospitals have been converted into COVID-19 centres to manage these cases. The Penang General Hospital was designated as a hybrid hospital to manage both COVID-19 and non-COVID-19 cases. Consequently, services across specialties, including urology have been affected. Triage of referrals was necessary to ensure optimum patient care, thus we designed a triage system to address this situation. A record screening system of patients was also implemented to limit outpatient appointments. We share this early experience in managing urology patients during this pandemic.

INTRODUCTION

The COVID-19 virus has spread rapidly worldwide with the World Health Organization (WHO) declaring it a pandemic on March 11, 2020.[1] In Malaysia, the first case was reported on the 25th January 2020, followed by a large spike of cases in early March 2020. As of 17th May 2020, there were 6894 confirmed cases in the country, with 113 deaths reported.[2] A Movement Control Order (MCO) has since been implemented by the Malaysian government from 18th March 2020 till 14th April 2020 with a subsequent Conditional Movement Control Order extended till 9th June 2020, as a measure to curb further dissemination of the virus.[3]

In light of this, many hospitals in Malaysia were converted into COVID-19 referral centres to manage these cases. The Penang General Hospital (PGH) was designated as a hybrid hospital to manage both COVID-19 and non-COVID-19 cases. As a result, services across various specialties, including urology were affected as seen in most countries, requiring urologists to adapt.[4]

Urology service in PGH caters for a large population across three northern states (Penang, Kedah and Perak), receiving both emergency and outpatient cases. Being a tertiary referral and teaching hospital, triage of referrals was imperative to ensure optimum care for all patients during this pandemic. Thus, we have designed a triage system based on a simple algorithm. As for pre-existing outpatient clinic appointments, a patient record screening system was implemented to limit the number of patients presenting to PGH and to ensure patients are adequately managed. We share our early experience in managing urology patients during this COVID-19 era.

1.1 Triage system of referrals

Referrals from other hospitals or health clinics were received by on-call medical officers and discussed under a tier-based system with the on-call urology registrar and consultant urologist. We classified our referrals into three main categories, namely, a) emergency, b) urgent, and c) non – urgent based on the local context recommendations by the Ministry of Health Urological Advisor.[5] (Table I)

1.1 a

For emergency cases, the referring centres ensured that patients filled up the COVID-19 declaration form (based on the National COVID-19 screening guidelines[6]) prior to transfer to our emergency department in PGH.

Positive cases were directed to the designated COVID-19 isolation ward. If emergency surgery was required, the designated urology COVID team, consisting of one urologist, one medical officer and two urology nurses would perform the surgery.

If there was high index of suspicion based on the declaration form, patients were treated as COVID-19 positive and the diagnostic PCR test was performed. In the meantime, these patients were isolated in a dedicated ward and handled with precautions using current MOH policy.[7] All patients undergoing emergency operations required a mandatory PCR throat and nasopharyngeal swab test to rule out asymptomatic COVID-19 carriers. In cases of serious emergency, where the COVID-19 status could not be ascertained within a limited time, the surgery was carried out with enhanced airborne precautions as per COVID-19 positive protocol.[8]

1.1 b

Cases that were categorised as "urgent" were initially screened by the referring centres to rule out COVID-19 in the similar manner as "emergency" cases. Patients who were suspected or tested positive were immediately referred and managed by the COVID-19 team in PGH. Those with negative results were attended to accordingly. Patients in the

Corresponding Author: Sivaneswaran Lechmiannandan
Email: smartsiv@hotmail.com

Table I: Classification of referrals based on urgency

Category	Referral cases	Level of Urgency
Emergency *(life-threatening or significant morbidity if not treated)*	Urological trauma, urosepsis, obstructive uropathy with renal failure or anuria, testicular torsion, Fournier's gangrene, penile fracture, priapism	 Decreasing
Urgent	Urological malignancies, persistent hematuria requiring bladder irrigation, unilateral ureteric obstruction, scrotal or testicular abscess, perinephric abscess, pyonephrosis, impacted urethral stone	
Non- urgent	Benign cases e.g. benign prostatic enlargement, non-infective urolithiasis, renal cysts	

Table II: Estimated numbers of urological cases in Penang General Hospital prior and during COVID-19 pandemic (18th March 2020 onwards)

Urology service Mean, (Range)	Pre –COVID-19 (cases per month)	During COVID-19 era (cases per month)
Total Referrals	700 (600-900)	650 (600-700)
Transfer-in referral cases	13 (12-16)	12(10-15)
Emergency operations	18 (16-20)	22 (15-28)
Outpatient clinic appointments	1100 (500-1700)	680 (560-800)
Outpatient procedures		
i. ESWL	45 (40 – 50)	0
ii. Flexible cystoscopy	115 (103 – 126)	51 (44-58)
iii. Trans-rectal biopsy of prostate	25 (22 - 28)	9 (6-12)

"urgent" category such as malignancies that did not require hospital admission were reviewed in the outpatient clinic within one week.

1.1 c

All non-urgent cases were given outpatient clinic appointments between 6 to 8 weeks. This duration was based on the initial MCO of 1 month with possible extension if there was no "flattening of curve" of new COVID-19 cases seen nationwide. These non-urgent cases were re-evaluated for further postponement with the added MCO extensions.

1.2 Outpatient appointments and procedures

1.2.1 Outpatient appointments

All scheduled outpatient clinical records were screened by consultants one week prior to the appointment. The aim was to prioritize and assess the suitability to extend clinic appointments of patients.

Those who were deemed non-urgent were given new appointments, ranging from 6 weeks to 6 months later, depending on the complexity of the cases. Patients were then contacted by the clinic nurse to reschedule the appointments. Those requiring medication were contacted by the pharmacists to collect their medication either via the hospital drive-through counter or sent by post.

Patients with oncological conditions who required assessment or close monitoring, suspected malignancies, obstructive uropathy and immediate postoperative patients, were reviewed in the outpatient clinic as usual, as delays could jeopardize their treatment outcome. Patients who arrived for their follow-up signed a declaration form indicating that they had no influenza like symptoms, recent travel or close contact with suspected cases, before being attended to by our doctors.

1.2.2 Outpatient procedures

The outpatient urological procedures were stratified by urgency. Procedures such as Extracorporeal Shock Wave Lithotripsy, urodynamics and flexible cystoscopies for benign diseases, were postponed (Table II). Prostate biopsies for highly suspicious prostate cancer and cystoscopies for patients with gross haematuria to rule out bladder malignancy were carried out without delay. As there have been reported cases of COVID-19 being detected in urine and faeces, we practiced standard COVID-19 precautions with PPE (head cover, face shield, N95 mask, long sleeve isolation gown, shoe covers and double gloves) as per MOH infection prevention and control guidelines.[9]

CONCLUSION

The COVID-19 pandemic has proven to be a difficult and tumultuous period for clinicians of all fields. The challenge has been to strike a balance between providing optimal care, whilst preventing untoward risk to health care workers and patients. Our triage of referrals and outpatient clinic screening system has enabled us to achieve this and believe it will benefit other specialties too. Fortunately, thus far, our patients who were tested prior to emergency and semi-elective surgeries were all negative for COVID-19. Nevertheless, preventive measures must continue. With the unpredictable rise and fall of cases, urologists will also have to adapt and help our overwhelmed emergency physicians and infectious-disease colleagues in the frontline.[10]

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