DOI: https://doi.org/10.53350/pjmhs2023174108

ORIGINAL ARTICLE

COVID-19- A Challenge for Urology Subspecialty in an overwhelmed public sector hospital: A Descriptive Review of Urology Department, Lady Reading Hospital

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ABSTRACT

Background: COVID-19 has brought unprecedented changes in every aspect of life throughout the world including the healthcare delivery system. After a grinding halt in surgical practice due to this pandemic, the conventional protocols needed a thorough overhaul before kick-starting formal services. This study discusses ways and procedure changes adopted at the Urology department to navigate this crisis and extend adequate urological care to patients at the same time.
Aim: To share our experience of patient management in the era of the COVID-19 pandemic.
Methods: It's a descriptive review article based on patient management protocols and clinical audit in the era of COVID-19 pandemic at the Departmentof Urology, MTI, Lady Reading Hospital from 20th Marchto 20th June 2020.
Clinical implication the benefit of this study is how to organize things and continue health care provision in a deadly pandemic. Furthermore, it will set a precedence that how to cope with such a pandemic in the future.
Conclusion: All surgical patients should be screened for COVID-19, with preference given to PCR tests. All elective surgeries should be put on hold as a result of the limited availability of ventilators, manpower, and hospital beds. Only semi-elective, lifesaving and oncologic surgeries that cannot be delayed should be done with full PPEs provided to every personnel frequenting operating theaters during the procedure. Furthermore, more efforts are needed to lift the infrastructure of hospitals and make them capable to face problems of such proportions in the future.
Keywords: COVID-19, Urology, Public sector hospital, Pandemic, Oncological surgeries

INTRODUCTION

Surgery and its allied specialties are pivotal to patient care in any healthcare facility. Keeping in view the importance of surgical management in this testing time, it is pertinent to take into account the likelihood of surgery providing an equal opportunity for Infecting the patient as well as healthcare providers, be it the anesthetist, the operating surgeon, the caring nurses or operating room staff. This fact becomes a matter of paramount significance at a time when the whole world is being plagued by the COVID-19 pandemic. In a time like this, there is an acute need to bring forth out-of-the-box solutions for instance assorting patients into different groups and providing them with essential optimum care. Health managers need to strike a fine balance between extending proper health services to the needy and keeping infection at bay at the same time.

Pakistan, where the health care system has not been well developed for a long time and services delivery lies at the bottom of the spectrum, has been equally affected by this novel Pandemic. As of this day (20th June), the total number of COVID-19 confirmed cases are 165062 with 3229 deaths and about 61383 recoveries[1]. Among this, the total numbers of patients in KPK are 19613 with a death tally at 500[2]. The proportionately higher number of cases and mortality has badly hit the health system and has equally affected the morale of healthcare providers.

Reading Hospital is the oldest and largest public sector hospital and has been at the forefront of fighting against this pandemic. It was the first public sector hospital where a dedicated isolation unit was immediately established and ICUs readied for the expectant wave of patients. Though, this was later implemented in the rest of the public sector hospitals. Owing to the increasing number of cases and to avoid the spread of the disease, all elective services were put on hold in the last week of March after a sudden surge of the pandemic within the province. But the fact that more than 1000 patients are entertained in urological OPDs on weekly basis, it was not possible to halt the services at once leaving patients in the lurch. Keeping this in view, a strategy was devised at the departmental/administration level to overcome the problem of patients' deferral as well as minimize exposure of the health care providers. This was communicated to the administration for the smooth running of the new approach.

Received on 09-10-2022
Accepted on 19-03-2023

New protocol for booking of surgical procedures and operation theatres: All elective services were stopped from 20th March including outpatient clinics and operative theatres (OR) were shut down. Emergency cases were followed and dealt with accordingly in the Emergency department whenever urological services were demanded. The fact that neither every condition could be dealt in the emergency OR nor every procedure deferred indefinitely, as delay in certain cases particularly cancers and cancer-related surgeries could result in unwarranted long-term sequelae. After an early phase of restricted practice, a protocol was devised to make patient management more inclusive. Patients were categorized into semi-elective and elective cases. Emergency procedures were expedited and at once shifted to the operating theatre owing to the nature of presentation like gunshot injuries and stab wounds etc. Semi-elective/high priorities are those patients whose issues could not be deferred for more than 6 weeks. The ambiguity associated with the semi-elective group merited a coordinated response that dealt with consultant urologists taking the lead and undertaking surgery in liaison with the anesthetist on a case-by-case basis.

A strict criterion was adopted where every case that was to be considered for the surgical procedure had to undergo a screening process. This included identifying high-risk covid-19 patients by filling a proforma designed by the Covid-19 team of our institution. Subsequently after the approval by the respective Urologist, Anesthetist, and OR Chief each case was discussed on an individual basis before the procedure and proceeded accordingly. The number of functioning OR was reduced from 5 to 3, 1 each for open and endoscopic procedures besides the OR for ultrasound-guided percutaneous procedures. Protective gear for the surgeon and OR staff as no covid-19 testing, the following

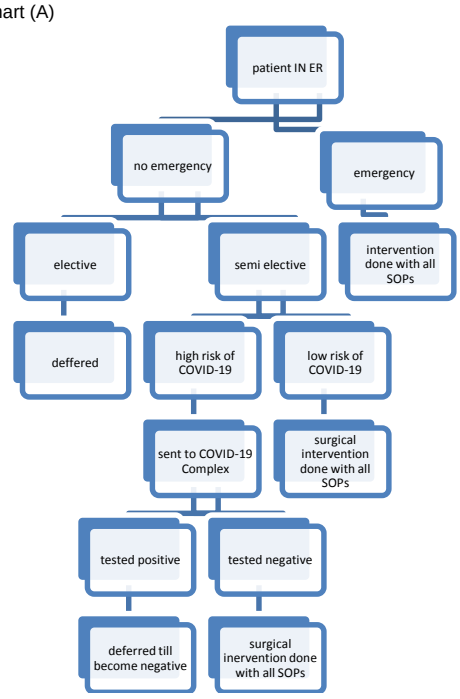
organizational changes were brought about in the operating room for semi-elective surgeries;

1. An extra cordoned-off area was reserved for donning and doffing of personal protective equipment and for storage of medication and surgical materials.
2. Equipment that was not required for the operation was removed from the operating area.
3. Endoscopic and surgical instruments were immediately disinfected while disposables and drapes were disposed off right away after use.
4. OR entrance and exit gates were strictly monitored to keep a minimum flow of traffic.
5. Spinal anesthesia was instituted for patients deemed fit by anesthesia to keep the aerosol transmission in check.
6. To make sure minimum exposure time for medical personnel, appropriate surgical techniques are applied by expert surgeons.
7. OR staff strength was reduced to a minimum with full PPE donned and all non-essential staff were made to wait outside.
8. All energy devices were kept at low settings to avoid particle aerosolization.

Protocol for COVID-19 Screening in ER: Every Patient entering the Hospital Premises is screened for risk of COVID-19 through a proforma, which assesses the patient's history over the past 02 weeks for a) Any symptoms, b) Close contact with COVID-19 confirmed Case (Flow chart A).

Out-Patient Department: Outpatient clinics which are situated in the separate building have been closed since March 20th, but semi-elective patients are being entertained in the respective departmental blocks. Where every protective measure is taken irrespective of the Patient's COVID-19 status.

Flow chart (A)



Duty Roster Changes: Department of Urology the whole staff has been divided into 03 teams, each overseen by 02 Consultant Urologists. Each team would be available for a week cover including managing ER cases followed by a 02 off-work week pattern which enabled the department staff to keep the rest of the workforce away from being exposed & thus minimizing the risk of contracting the disease.

Academic Sessions: The department of Urology endeavored to fully participate in whatever national and international online academic activities were going on mainly related to Urology. Cases would be discussed in online group meetings between trainees and consultants so as not to compromise the needs of trainees.

The objective of the study was to share our experience of patient management in the era of COVID-19 pandemic.

Design and setting: It's a Descriptive review article based on patient management protocols and clinical audits in the era of COVID-19 pandemic at the Departmentof Urology, MTI, Lady Reading Hospital from 20th Marchto 20th June 2020.

Audit of Urology Department from 20th March to 20th June 2020.

Total no of consultations = 1138
Total no of new patients = 927
Total no of follow-up patients = 211
Total no of admissions = 40
Total no of urological procedures = 399

Three staff members including 2 doctors and 1 staff nurse had an infection with COVID-19. All recovered within three weeks' time. 2% of patients who were covid19 positive were referred to the covid isolation ward and out of 399 admitted patients 5(1.2%) had covid-19 PCR shifted to the isolation unit. Rest of the patients were discharged in satisfactory condition.

An outbreak of Urological procedures:

No of pts	Diagnosis / Etiology	Procedure done
309	Acute retention of urine/ others	Per urethral / suprapubic catheterization
25	Obstructed kidney leading to sepsis/ pyonephrosis/ nephropathy	Percutaneous nephrostomy(PCN)/double J stenting
20	Double J stent insitu for more than three months	Removal of stent
09	Urethral injury	Suprapubic catheterization
09	Bladder injury	Exploration and repair
06	Fournier's gangrene	debridement
05	Clot retention in bladder	Clot evacuation
05	Renal trauma	Exploration and nephrectomy
04	Scrotal trauma	Exploration and repair+/- orchidectomy
03	Fracture penis	Repair
02	Testicular torsion	Exploration and fixation
02	Bladder tumor	Check cystoscopy and TURBT

DISCUSSION

Bikash Bikram Thapa et al[10], meta-analysis concluded that conditions that pose a threat to life or organs require prompt intervention. To prevent and control SARS-CoV-2 infection, widespread preventative interventions and patient treatment based on protocols are required. An ethical foundation for population-based healthcare during a pandemic is provided by resource conservation and its sensible allocation. Making decisions based on information benefits patients, families, and society best during a public health emergency. During this pandemic, urological treatment should be prioritized, and the type of surgical surgery was selecteddepending on the socioeconomic situation in the region and the current scientific information[11,12].

Without increasing the danger of exposure or the strain on healthcare resources, the emergency situation needs to be addressed properly and swiftly. Pandemic standard treatment is also necessary for pediatric urology[13,14]. According to a US study, OPD visits for electiveprocedures have decreased more (49%-59%) than those for potentially urgent diagnoses (38%-52%), and surgical procedures for elective conditions have decreased more (43%-79%) than those for potentially emergency conditions (43%-53%)[15].

Stavros Gravasetal[16], carried out a global perspective research, 2494 urologists from 76 different countries participated in the survey, with 1161(46.6%) working in academia, 719(28.8%) in private practice, and 614(24.6%) in the public sector. In addition to general attempts to take further safeguards to stop the spread of COVID-19 during emergency surgery, the data show considerable constraints on outpatient consultation and non-emergency surgery.

East and Southeast Asia show fewer of these limitations. Choosing who gets access to elective surgery is frequently up to urologists (40.3%). The epidemic has significantly altered the practice of urology.

CONCLUSION/RECOMMENDATIONS

LRH being the largest public sector hospital remained the main destination and received the bulk of covid-19 patients in KPK. Without covid-19 testing emergency and semi-elective cases were performed with full PPEs provided to every personnel frequenting the operating theater during the procedure. This provision of equipment to each and every individual put an extra burden on the already strained financial resources of the institution. All surgical patients should be screened for COVID-19, with preference given to PCR tests.

All elective surgeries should beput on hold as a result of the limited availability of ventilators, manpower, and hospital beds. Onlysemi-elective, lifesaving, and oncologic surgeries that cannot be delayed should be done. Regarding surgical practice recommendations, we believe that surgical staff should be reduced to the minimum, without compromising the procedure and the operation should be performed by the most experienced surgeon, so as to reduce OR time. An institutional workflow to assist medical staff in decision-making and in dealing with mental health issues should also be established.

Standardized perioperative precautions such as the use of PPEs are essential to prevent disease transmission and control unwanted complications. In emergency surgery, every patient should be considered as COVID-19 positive untilproven otherwise. Furthermore, more effortsare needed to lift the infrastructure of hospitals and make them capable to face problems of such proportions in the future.

Conflict of interest: No conflict of interest

Ethical approval: Ethical approval was taken from the Institutional ethical review board.

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