

# Vascular Surgery in COVID-19 Period and Beyond: Acknowledging the New Normal

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The first infected case of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in Nepal was diagnosed on 23 January, 2020 which was also the first recorded case in South Asia, but after confirmation of subsequent cases on March 23 and 24, the entire nation was put under lock down.[1] Between January and March, the government took preventive measures by upgrading health infrastructure, setting up health desks at important public spaces like airports, spreading public awareness through various means, sealing off of international borders.[2,3] Initially our optimism stemmed from the slow rise in cases compared to our neighbors which delivered hope that things will be back on track soon. But with consistently escalating infection rates it was clear that we are as vulnerable to this as any other nation. For us, it reflected in thinning out of emergency and urgent cases. This, was sure to have a significant impact on patients' lives. On one hand owing to confinement measures, to avail specialty services was becoming a challenge for them, especially those from remote, rural areas where transportation even if desired is accessible on select occasions. On the other, phobia of coronavirus led patients to defer going to distant tertiary hospital as far as possible. With all this, our

patients might end up with higher stages of vascular diseases, higher degrees of unsalvageable limbs, and delayed presentation in acute emergencies.

Anticipating this situation our Institute (Manmohan Cardiothoracic Vascular and Transplant Center), resumed most patient services at the earliest possible time. Provision for online consultations were made, either through social platforms or hospital's phone application. For those whom this was not an option, personal cell phone numbers of respective faculty and residents were provided for telephonic consultations.

To test for Coronavirus disease (COVID-19), we use either an antibody based Rapid Diagnostic Kit (RDT) or Polymerase Chain Reaction (PCR) test. Molecular PCR of respiratory tract samples is the recommended method for identification and laboratory confirmation of COVID-19 cases[4] as studies suggest that majority develop antibody response only in second week after symptom onset. [5,6] Considering the limited resources, but yet prioritizing safety of health workers our institution has a modified protocol. Anyone with influenza like illness (ILI), exposure / contact history, fever >100 ° F or clinician's suspicion would directly take the RT-PCR test. Those scheduled for surgery, admission or observation, belonging to hot zones but not meeting above criteria would any way take the RDT, and if this comes out to be positive, would be immediately shifted to isolation ward and PCR test be done at earliest.

Strictly adhering to Standard Operating Protocols (SOPs), we resumed performing surgeries, prioritizing patients as per urgency. We only use two operating rooms. One designated for suspected or positive cases and other for negative ones. Similarly, the post-operative ward was also divided. Even after resuming work, we saw a drastic fall in the number

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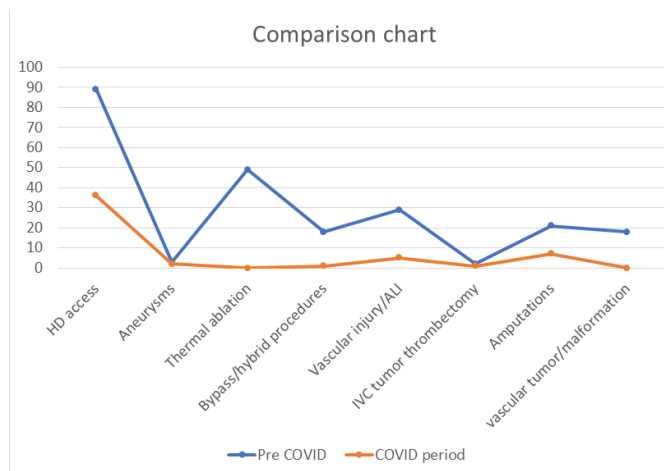
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of cases which can be inferred from that in the past sixty days of lock down, we have only performed 52 vascular surgeries as opposed to approximately 230 in this same period last year which is a more than seventy five percent reduction. This implies a decrease of almost 40% in hemodialysis access (HD) procedures, 17% of surgery for acute limb ischemia (ALI) and vascular injuries, 5% of bypass/hybrid procedures for limb claudication vis-a-vis previous



year. (Fig. 1)

*Fig. 1 Comparison of Vascular Surgeries in the two years.*

We believe technology in such situations can be extensively utilized as a boon for both, the doctor and the patient. A telemedicine unit can be setup at district and/or zonal hospitals to make appointments with their physicians easier, as even a simple smart phone would suffice. Internet in Nepal is now available in almost every corner of the country, (places as high as the Annapurna Base Camp boast of it).[7] This would provide crucial patient – doctor interface, keep the patient content while negating the need to travel long distances in crowded public transports for the same appointment. Assuming 7-8 minutes be dedicated for each patient, an average 20-25 patients can be tele-examined in a three hours session every day. Doctors, other health workers can be periodically updated through webinars to better their efficiency and broaden spectrum of diseases that can be managed at these centers.

We have to develop a work culture assuming the coronavirus is here to stay, as sooner or later the lockdown has to be lifted to resume normal life and the only way, we can be prepared for it is by start preparing now. We must lead a dynamic change in our system, shifting paradigm of vascular surgery

to primary health centers via trainings, webinars, workshops and continuing medical education (CME).

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