My experiences of Covid-19 with Adult Congenital Heart Disease

Introduction

Since December 2019, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has spread globally leading to over 238 million infections and over 4.8 million deaths. Healthcare systems have been struggling to adequately address the needs of infected patients. Shortages of hospital capacity, manpower and supplies are reported even from developed countries. Cardiac centres and cardiologists had to shift focus of care, postpone cardiac procedures to divert resources for COVID-19 patients.

As Covid-19 affects lungs in more severe cases, adults with congenital heart disease (ACHD) are likely to be at a disadvantage as some of them may already have mildly compromised lung functions.

India experience of ACHD affected by Covid-19 infection

In a recently publication from India, 11uut of a total of 94 patients were > 18 years of age with a mean age of 33 years. Five were symptomatic for COVID-19. Two patients had serious illness due to acute respiratory distress syndrome related to COVID-19, both required noninvasive ventilation. No deaths were observed in the adult CHD cases with COVID-19 infection. Two adult patients with atrial septal defect underwent surgery 1–3 months after recovery from COVID-19 infection. An additional 12 cases were between 12-17 years of age, 6 of whom required admission.

Predictors of high risk, as assessed in two recent large studies from multiple ACHD centres, included presence of cyanosis and pulmonary artery hypertension. In fact complexity of anatomy was not a predictor of death. Also surprisingly stable Fontan patients did well.

Effect of Covid-19 pandemic on the care of adults with CHD in India

Outdoor Clinics: All outpatient services were discontinued in end March 2020 and were replaced by teleconsultations (85% of Indian population has mobile phones, this greatly helped in telemedicine). Practice guidelines for teleconsultation were proposed by Ministry of Health and Family Welfare, Government of India for local use. High risk patients were prioritized, mostly through visits to emergency department. As Covid-19 numbers reduced, ACHD outpatient visits reduced to essential visits only, and teleconsultation continued. Patients encouraged to use local services for investigations and transmit these during teleconsultation.

Indoor Services: All patients were tested for Covid-19 before admission to the ward for protection of health care workers. Non-urgent/ planned operations (surgical, catheter or other) were deferred at the beginning of lockdown in March 2020 to protect ACHD patients from Covid-19 exposure. Those requiring emergency procedures/ surgery were screened for symptoms of COVID-19 and tested for rtPCR or Rapid Antigen Test, if time permitted. The healthcare staff caring for the indoor patients were advised to wear N95 masks, water-impermeable gown, shoe cover and head cap. Face-shields and goggles were used in addition, when performing any procedure such as TEE, cardiac catheterization etc.

Challenge: Major challenges included diversion of resources for Covid-19 (ICUs, ventilators, and health care providers), operating with full PPE on, increased risk of complications/ mortality of cardiac surgery.

According to a multicentre study from India on the impact of Covid Pandemic on pediatric cardiac services published recently, there was a reduction in OPD services, hospitalizations, cardiac surgery and catheterization procedures by 70-80%. However reduction in emergency procedures was 28.7%.