



EDITORIAL

Birth Defects, Paediatric Surgeons & The Pyopagus Conjoined Twins during the 2020 Pandemic

M. Bajpai¹ and M. Srinivas²

¹Professor & Head, Department of Paediatric Surgery, AIIMS, New Delhi

²Professor, Department of Paediatric Surgery & Director, AIIMS, New Delhi

Accepted: 2-January-2023 / Published Online: 7 January 2023

Surgically correctible Birth Defects are also known as Congenital Malformations. The incidence of structural birth defects which are amenable to surgery is 2–3% of all births. Considering the total birth rate in India it amounts to large numbers of children who need corrective surgery.

Birth defect surgery is performed by Paediatric Surgeons. The major surgeries could be carried out in tertiary care centres and require Paediatric Surgeons as well as Paediatric Anesthetists besides skilled Nursing care. While many of these could be treated in medical colleges & even district hospitals, the overall number of these specialists are inadequate in the country.

Paediatric surgery is a specialized field with a cadre of surgeons who perform surgery in children from newborn to up to 18 years of age.

During the Pandemic, published National statistics of treatment received for various conditions in the country, showed an overall decrease in numbers, mostly for routine surgeries during the Pandemic. Birth defect surgery took the biggest hit as it was reduced to 1/3rd of the numbers before COVID-19 Pandemic, viz., 20.9 lakhs in 2019 to 2.6 lakhs with a percentage drop of –87% as per the Ministry of Health's 'Rashtriya Bal Swasthya Karyakram'. (Some statistics are depicted in Figure 1).

*Corresponding author: Minu Bajpai
E-mail address: bajpai2b@gmail.com

However, despite the Pandemic, irrespective of COVID-19 positivity, lifesaving emergencies continued to receive priority.

During this period, surgeries continued to be offered to newborns. It also included other emergencies involving various organ systems in children, yet, several more elective organ salvage surgeries had to be postponed.

Conjoined twins are a very rare developmental accident of uncertain etiology. Prevalence has been previously estimated to be 1 in 50,000 to 1 in 100,000 births.

Two pairs of Pyopagus, conjoined twins were successfully separated at Department of Paediatric Surgery, All India Institute of Medical Sciences, New Delhi, during the Pandemic. The two-year-old, twin sisters successfully recovered.

While the department of surgery has experience of operating upon conjoined twins in the past, Pyopagus Conjoined twins have been operated for the first time. The challenge in the surgery was the separation of their fused spinal cords without risking neural injury. This part of surgery was accomplished by detailed microdissection with dynamic neurophysiology monitoring and it occupied the major part of the surgical time. Nevertheless, this enabled excellent outcome without inflicting neural injury, thus, restoring the pre-operative status.

The first pair of Pyopagus twins underwent Surgery in May, 2020.

SIDE-EFFECTS OF A PANDEMIC	2019 (Lakhs)	2020 (Lakhs)	Change (%)
Newborns screened for defects at birth (as per RBSK*)	20.9	2.6	-87.6
Outpatient - acute heart disease	7.2	2.0	-72.2
Outpatient - cancers	5.0	1.4	-71.3
Inpatient - typhoid	1.2	0.4	-69.9
Inpatient - asthma, COPD, respiratory infections	4.3	1.5	-65.6
Pregnant women given free medicines under JSSK**	31.9	11.6	-63.7
Minor surgeries	34.2	13.5	-60.6
Major surgeries	11.0	4.4	-60.4
Lab tests done	2,111.7	851.2	-59.7

Source: Health ministry
*Rashtriya Bal Swasthya Karyakram; **Janani Shishu Suraksha Karyakaram

Fig. 1: Times of India. August 31, 2020.

At this juncture our infrastructural facilities were not only over stretched, it required reconfiguring in management strategy almost on a day to day basis.

The baby girls were joined at the hips with complex fusion of their back bones & spinal cords, large intestines at the lower ends with a common rectum and a common passage for passing stools. Also, there were abnormalities of heart & major blood vessels along with lack of adequate skin cover. Both had cardiac anomalies, one baby has encephalomalacia of one side of cerebral hemisphere. They had a single sacrum between them with their Spinal Cords fused at a critical junction in the lower end. Additionally, there was an anomalous crossing of an artery to one leg in one twin with shared supply. Both had single kidneys, each.

Since, the surgery was being carried out during the Pandemic they were first tested

negative for Covid-19. The procedures of separation lasted 24 hours. The total no. of health care manpower involved was 64 people & included several specialist teams: Anesthetists, Paediatric Surgeons, CTVS, Plastic surgery and Neurophysiology, besides Nursing & Paramedics staff. The diagnostic investigations were already completed with the help & participation from other Departments at AIIMS, such as, Radiodiagnosis, Neurophysiology, Nuclear Medicine, Laboratory medicine, Nursing & paramedical staff including C.M.E.T.

The second pair of Pyopagus conjoined twins were separated in January 2021.

Both pairs recovered successfully and were discharged from the hospital. By now they have also made several routine follow up visits to AIIMS.