Mizoram, our mission field

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It's just two months since we set foot on this beautiful land of Aizawl, the capital city of Mizoram, a state in the northeast part of India. We have always wanted to work in a mission hospital and since we heard of the need for paediatric care in this part of the country we felt the leading of God to this place. Mizoram is a beautiful place with nature at its very best. There are scenic views from every hill top and the climate is pleasant compared to the tough summer heat of Vellore from where we have just moved out. The people are friendly and the streets are full of youthful faces. It’s a state with a predominantly Christian population and the artistically decorated streets during the season of Christmas are a sight you don’t want to miss. But amidst this beauty there are challenges every family faces - deprived health care facilities for infants and children, young adolescents taking to drug addiction, alcoholism and tobacco are probably at the highest in whole of India.

We (my wife and I) joined the Aizawl Adventist hospital as a paediatric team. Excited to start our mission journey, we landed in Aizawl on the 12th of November, 2015 and could hardly wait to start our work. The word went around the city through newspaper and other media that two pediatricians had joined the hospital and so day by day the number of children coming to the hospital went up. More pregnant mothers were registering for deliveries.

We were barely trying to equip our paediatric ward when one fine morning a young mother with her husband presented to our emergency. The lady in her third trimester had severe pre eclampsia. Her blood pressures were very high and in spite of treatment her blood pressures were difficult to control. She could no longer continue the pregnancy. At 32 weeks and twin gestation the babies to be born were going to have major complications such as twin to twin transfusion, respiratory distress, necrotising enterocolitis and prolonged admission for preterm care. With two doses of antenatal steroids the decision was made to go ahead with emergency caesarean. Our old Doppler machine could not identify fetal cardiac activity of one of the twins. Expecting only one baby to live, we prepared ourselves to receive only one of the twins. In the theatre we received the first of the twins; though he had a good cry at birth he soon had secondary apnea and needed some respiratory support with which he was getting better but to our utter surprise the second of twins when brought out also showed signs of life. We rushed to share the oxygen support with her and quickly intubated her and started resuscitation measures with fluids and manual ventilation.

What would we do with a 1.7 kg newborn who needs ventilator care since our hospital had just one warmer which was not functioning? We had no resources to treat this little one with the care she actually needed. Thanks to God and our wonderful team of nurses we managed to prepare a makeshift NICU with heaters and thermocol sheets to ward off the chill air in the nights. We frantically contacted other hospitals if there was a possibility to provide ventilator care for the second twin. Sadly there were no newborn ventilators available in the city and the father of the baby who was aware of all that was happening said in Hindi -“Aap se jitna ho sake aap karo, baaki sab Bhagwan ke haaton mein hai” which means “Just do whatever you can; the rest is in God’s hands”. However, here was no way we could let him down. My wife, I and Dr. Eileen our obstetrician, bagged the baby every 2 hours through the day and night. As the next day dawned, we had to resume other work in the hospital too, so we quickly made a 24 hour roster for all staff to bag-ventilate the baby. Every one hour hands would change and somehow again by the grace of God we managed to keep her alive for 72 hours. She had multiple tube blocks and temperature irregularities and needed blood transfusion. In
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spite of 80 hours of manual ventilation and all possible efforts, her respiratory efforts did not improve and she succumbed to death 80 hours later. We were extremely sorrow stricken as we placed the dead baby in the arms of her father. The mother who was just recuperating asked “Pehla baccha kaisa hai, usko kuch nahn hoga na?” which in Hindi means “How is the first twin, will he be ok?” The first twin, a boy who was on head-box oxygen was doing fine but how could I promise her he would be okay with the limited resources we had. I assured her we would do our best. Prayers were desperately made for this family and the little twin 1. The baby boy was 7 days old when he was noticed to have bounding pulses with tachycardia. Is it a Patent ductus arteriosus - a serious condition where a small vessel in the heart fails to close after birth? With much prayer, and guidance from CMC we started him on injectable Paracetamol for duct closure and also upgraded the antibiotics. Within 24 hours he showed much improvement. Once gain we were at peace.

Our infant warmer wasn’t working. We were using halogen heaters to keep him warm however temperature regulation in this cold climate was quite a challenge. Over 25 days, the baby was weaned off oxygen and started on feeds from nasogastric tube feeds to direct feeds. He started gaining weight and discharged by 26th day. We have followed him up just 2 days ago and it was such a joy to see the parents with a healthy baby in their hands. We praise God for being with us through this challenge and we are assured that through Him we can accomplish greater things in the future. We have a long way to go. We hope that as a hospital will be able to provide the best medical care to every sick child in Mizoram, combined with the love and compassion of Jesus Christ our Master.

Patent ductus arteriosus

Patent ductus arteriosus (PDA) is a condition usually seen in preterm babies or in association with chromosomal anomalies. Before birth, the two major arteries-the aorta and the pulmonary artery are connected by the ductus arteriosus. This vessel is an essential part of fetal circulation. Within minutes or up to few days after birth the vessel is supposed to close as a part of the normal changes occurring in the baby’s circulation. In some babies however the ductus arteriosus remains open and this opening allows oxygen rich blood from aorta to mix with oxygen poor blood from the pulmonary artery. Babies who have a PDA present with poor feeding, tachypnea, tachycardia, bounding pulses and will have a loud machinery murmur on auscultation in the left second intercostals space. The commonly practised treatments are administration of Indomethacin or Ibuprofen and in some cases surgical ligation of the PDA may be required.

Ductal Closure With Paracetamol - A Surprising New Approach to Patent Ductus Arteriosus Treatment, by Hammerman et al was published in the American academy of paediatrics where they presented the cases of 5 preterm infants (gestational age: 26–32 weeks; postnatal age: 3–35 days) with large, hemodynamically significant patent ductus arteriosus who had either failed or had contraindications to ibuprofen therapy. Each of these infants was treated with off-label oral paracetamol (15 mg/kg per dose every 6 hours). Ductal closure was achieved within 48 hours in all the treated infants. No toxicity was observed.²

An article is published by Cochrane database of systematic reviews in March, 2015 on the use of paracetamol for PDA closure as an outcome of two studies conducted in Turkey and China. Two hundred and fifty preterm babies were included to study the efficacy of paracetamol versus Ibuprofen and it was found that the success rate for paracetamol to close a PDA was similar to that of ibuprofen. Adverse events were similar in both groups. Infants who were treated with paracetamol had a reduced duration of needing extra oxygen and a lower risk of hyperbilirubinaemia than those treated with ibuprofen. It concluded that Paracetamol appears to be a promising new alternative to indomethacin and ibuprofen for the closure of a PDA with possibly fewer adverse effects.²

References: