circumference measurement in newborns. Clin Pediatr (Phila). 2014;53:456-9.

AUTHORS' REPLY

We thank the readers for critically evaluating our research study [1]. The queries raised are addressed below:

1. Small for gestation age (SGA) infants are anatomically and physiologically distinct from appropriate for gestational age (AGA) infants [2]. However in our study, on calculating regression equation predicting insertional length (IL, in cm) from the weight (kg) among AGA and SGA neonates, the results remained similar (both regression coefficient and intercept) as follows:

   IL (overall population, cm) = wt (kg) +4.95

   IL (AGA population, cm) = 1.1×wt (kg) +4.928

   IL (SGA population, cm) = 1.1×wt (kg) +4.922

2. We accept that the sample size required in different groups (calculated *post hoc* from our results) is more than the number of infants enrolled. However, there was no prior study that had reported gestation or weight-based normograms of optimally placed endotracheal tube on ultrasound to guide us. Therefore, we conducted a pilot study on 15 infants in two weight categories. To derive adequate sample size in five weight categories and four gestation categories, a pilot study would require about 80-100 infants, which was not feasible for us.

3. Median (IQR) day of enrollment of the neonates was 3 (1-9) days. None of the study subjects had cephalhematoma or subgaleal bleed. Neonates with caput succedaneum enrolled on day 1 had their head circumference measurement repeated after 48 hours of life, not only for our study but also as a standard clinical protocol because resolution of caput succedaneum takes few days [3]. We agree that our study had male preponderance and the possibility of calculating sex-specific normative data of optimally placed endotracheal tube on ultrasound based on adequate sample size needs to be explored.

ANUP THAKUR AND NEELAM KLER*
Department of Neonatology,
Institute of Child Health,
Sir Ganga Ram Hospital,
New Delhi, India.
**drneelamkler@gmail.com*

REFERENCES

1. Singh P, Thakur A, Garg P, Aggarwal N, Kler N. Normative data of optimally placed endotracheal tube by point-of-care ultrasound in neonates. Indian Pediatr. 2019;56:374-82.
2. Saenger P, Czernichow P, Hughes I, Reiter EO. Small for gestational age: Short stature and beyond. Endocrine Reviews. 2007; 28:219-51.
3. Walker PV. Newborn evaluation. *In*: Gleason CA, Juul SE, editors. Avery's Diseases of the Newborn. Philadelphia: Elsevier; 2017:289-311.e1. Available from: *https://www.clinicalkey.com/#!/content/book/3-s2.0-B9780323401395000255.* Accessed May 30, 2019.

Periviable Birth – The Ethical Conundrum: Few concerns

The article by Nimbalkar and Bansal [1], published recently in *Indian Pediatrics*, must have caught attention of many clinicians. We were looking forward to discussions around real time delivery room dilemmas in day-to-day life as well as some operational working algorithms/flowcharts that would help making decisions easier in such difficult situations. Through this communication, we have tried to complement the content in this article. Nevertheless, we agree with the author that there is an imminent need to collect our own outcome data in extreme preterm infants to enable framing national guidelines for management of periviable babies.

1. In the section on "The Ethics of Decision-making in the Delivery Room" authors have made a generic discussion around the principles of ethics rather than some practical ethical dilemmas faced by a clinician in a delivery room.

2. At the outset, it may have been good to define a 'live birth', What are 'signs of life', what constitutes providing either 'full life support' or 'comfort care' *etc.* While the Neonatal Resuscitation Program (NRP) guidelines mention first examination of 'Heart Rate' after the end of initial steps, do we really examine heart first when dealing with difficult situations of periviability to assess signs of life?

3. Authors have majorly (and infact theoretically rightly so) used gestational age (GA) cut-offs as the main guiding criteria that dictate decisions and actions in tricky situations around periviability. But surely such

utopian situations are not invariable. GA is often not known. Hence, a broad framework based on weight cut-offs (which is reliably obtained in all cases at birth) may be more useful and desirable for guiding decisions initiating resuscitation or continuing life support. Another not so uncommon situation is an unbooked pregnant woman who comes and delivers a periviable extreme preterm who needs immediate resuscitation before an informed consent can be obtained.

4. Translating available literature [2] to operational guidelines in our Indian context, we propose the following algorithm:
   - *Ideal situation when GA is known and a timely consent can be* obtained: Obtain informed consent in all cases at the limits of viability before initiating resuscitation as well providing life sustaining intervention.
   - *For 22-25 weeks gestation*: obtain informed consent before providing full armamentarium of life-sustaining interventions.
   - *When either GA is not precisely known or there may be no time to obtain consent*: (*i*) Initiate resuscitation in all babies weighing ≥500 g (10^{th} centile as per Fenton's chart [3]) and/or born after 22 completed weeks of gestation; (*ii*) for babies born between 500-600 g, full armamentarium of life- sustaining interventions should be provided till informed consent is obtained; and (*iii*) provide full armamentarium of life-sustaining interventions in all babies at ≥25 weeks' GA and/ or ≥600 g (10^{th} centile as per Fenton's chart [3]) of birth weight.
5. In Table I in 3rd row, 2nd column; *i.e.* "provide treatment unless provider declines to do so" is probably not justified as ethical principles do not allow the provider to decline treatment particularly when parents prefer to accept treatment.

TAPAS BANDYOPADHYAY AND ARTI MARIA*
Department of Neonatology, PGIMER and Dr RML Hospital, New Delhi, India.
**artimaria@gmail.com*

REFERENCES

1. Nimbalkar SM, Bansal SC. Periviable birth – The ethical conundrum. Indian Pediatr. 2019;56:13-7.
2. Lee ACC, Katz J, Blencowe H, Cousens S, Kozuki N, Vogel JP, *et al*. National and regional estimates of term and preterm babies born small for gestational age in 138 low-income and middle-income countries in 2010. Lancet Glob Health. 2013;1:e26-e36.
3. Fenton TR, Kim JH. A systematic review and meta-analysis to revise the Fenton growth chart for preterm infants. BMC Pediatr. 2013;13:59.

AUTHOR'S REPLY

We are happy to receive comments from the readership and respond to them pointwise. For the sake of brevity, we will not elucidate on the queries. We also look forward to more discussion from readers.

1. Our intention in this write-up [1] was to bring this concept into discussion and not discuss practical ethical dilemmas faced, as these will vary with the settings even in geographically localized areas. A sound knowledge of ethics in this area would allow the readers to apply them to their situation. We do not intend to be prescriptive in any way.
2. The article was reviewed twice and it was probably felt that Live Birth and Signs of Life were not required to be defined. We would even now baulk at defining 'full life support' and 'comfort care' due to reasons mentioned in the article at the end under "Complexity of the Indian Scenario." Concerning examination of heart rate (HR), in an unpublished study from our center, HR was not assessed in 39% of normal delivery care. However, all resuscitations that required ventilation had HR assessed as per NRP guidelines [2]. This study is an audit of random videos and hence participants were not aware that the video would be analyzed.
3. Weight has a similar fallacy as gestational age. In a neonate requiring resuscitation, weight is often guessed rather than measured before initiating resuscitative measures. Hence, it will always be worthwhile to ensure that we follow guidelines used across the world since gestational age rather than weight correlates with long-term neurodevelopmental outcomes. Even after completion of resuscitation, weight measurement may not be accurate in peripheral centers.
4. We would not agree to many points provided in the proposed algorithm. We need to decide which methods of gestational age assessment are to be relied upon. We have already shown our hesitation to use weight as a deciding criteria. As we have suggested, instead of few experts putting forth a recommendation, it is necessary to have a consultation process probably over a period of 6 months to one year among all stakeholders (including nurses, hospital administrators, ethicists, lawyers, parent groups, *etc.*), and following standard guideline development