Monthly Clinical Pearl: Prenatal Consults by Neonatologists: A Challenging Part of What We Do

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First, I would like to provide a bit of historical perspective for your consideration. It is 1983 and, as neonatologists, we were having more conversations with our maternal-fetal medicine colleagues about extremely premature fetuses at around 24 weeks gestation as well as fetuses with prenatally diagnosed syndromes, chromosomal abnormalities, and congenital anomalies. What seemed to be novel was, with improvements in prenatal recognition and management, and the availability of surfactants and newer modes of assisted ventilation, there seemed to be more we could do to support and potentially improve the overall survival and quality of life of these fetuses before and after they were delivered. So we thought it would be a good idea to organize a multispecialty group or committee to evaluate these maternal-infant dyads and have thoughtful conversations with the parents. We organized a group and began to involve all of the disciplines that were involved in the evaluation of this group of patients. A lot of progress has been made since that time.

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We thought it would be interesting to provide you a summary of the clinical issues for which we are being consulted for prenatally now in 2019. Here is an example of a list of prenatal consults categorized by major clinical issue or anomaly*:

Cardiac disease:	10
Central Nervous System	11
GI	8
Genetic/Dysmorphology	6
Skeletal	4
Renal	3
Cleft Lip/Palate	2
Respiratory	1

In addition, the obstetricians and maternal-fetal medicine specialists ask us to see pregnant women who present in preterm labor, premature rupture of membranes, preeclampsia and those with abnormal placentation, fetuses with intrauterine growth restriction, and maternal substance use disorders.

A lot of what I learned about each clinical condition was initiated when I was presented with a fetus or newborn who I was going to be caring for in the delivery room and in the neonatal intensive care unit (NICU). As a medical student when I had the opportunity to care for newborns with surgical problems, I learned from my supervisory residents and attending surgeons and the neonatologists. I usually did a bedside clinical conference as well, which included the development of the fetus and the anomaly (e.g., gastroschisis), the presentation in the delivery room with appropriate stabilization, then diagnosis with confirmation if the anomaly was internal (e.g., congenital heart disease), and management. I really enjoyed this care, which included discussions with the parents. This strategy continued during my residency, fellowship and, as an attending neonatologist.

What is interesting is that I think this basic strategy still applies.

1. Gather the clinical information from the maternal-fetal medicine specialist and discuss a strategy of potential prenatal management, intrapartum and delivery room management. For many of the prenatally diagnosed clinical problems on the list above, preparation and discussion with the parents are key portions of the management.

2. Once the clinical plan has been worked out with all of the specialists involved with the evaluation of the fetus' and the mother's status, this is reviewed with the parents to confirm they agree with the plan.

3. Make sure that everyone who will be in the delivery room knows and understands the plan. For example, if the fetus has micrognathia and will potentially be difficult to intubate with orally or nasally, or may need a tracheostomy, it will be important to have a pediatric otolaryngologist in the delivery room to evaluate the infant. Make sure the delivery room or

resuscitation area in the operating room is prepared with the necessary equipment.

4. The anticipation of potential problems and their solutions once the baby is delivered is very important. As much as you prepare and anticipate, only so much can be determined prenatally.

5. Make sure there is an ongoing conversation with the mother-father before, during and after the delivery of the infant.

6. Preparation for whatever will need to be done once the infant is transported from the delivery room to the NICU is of the utmost importance.

7. Once the baby is delivered and stabilized, it is important to show her/him to the mother and father and explain what has been done. Since close contact such as skin-to-skin contact may not be possible, the chance for the Mother to touch the baby or hold their hand is important.

8. The clinical management once the infant is admitted to the NICU can be anticipated so that, if this is a surgical anomaly, the surgeons will know ahead of time and be present for immediate evaluation.

9. If further diagnostic studies need to be performed, the neonatology team can alert the radiologist ahead of time so things can be organized for the scan, ultrasound, contrast study, MRI, etc. can be performed in a timely fashion.

10. The plan for postoperative management is in place with the active management team alerted in advance. If they need to be in the delivery room, that can be arranged.

11. Ongoing communication is of the utmost importance.

This summary is what I have learned beginning about 45 years ago and is based on a fair amount of clinical experiences with about one or more of every one of the clinical problems summarized in the list above.

Once we are aware of a fetus with a clinical issue and our involvement is required, preparation should begin as soon as possible. At present, there are databases to help give us an idea of the short and long term outcomes of fetuses and newborns we will be involved with caring for and it is important to have this information before having a series of discussions with the parents and colleagues. What is also clear from my own clinical experience is that each fetus, newborn and family is unique and I think it is best to also approach each clinical situation in this way.

References:

1. **Data provided Dr. Kelly Nelson Kelly, Attending Neonatologist, University of Chicago.*

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