

NEONATOLOGY: FROM FETUS TO NEWBORN

DOI: 10.5935/2238-3182.20140043

Understanding Neonatology, an area of Medicine that involves both prenatal and perinatal periods as for the postnatal period, ensures assistance with quality and contributes to the development and growth of the fetus and, consequently, the newborn.

From the beginning of pregnancy, the mother should perform monthly prenatal consultations because the fetus needs thorough monitoring. In Brazil, in 2011, when there were seven or more prenatal appointments the proportion of live births was 61.84%. Therefore, during these consultations, the research for infectious diseases such as syphilis, toxoplasmosis, hepatitis B, herpes virus, cytomegalovirus, human acquired immunodeficiency virus (AIDS), and rubella is extremely important and can contribute to raising the rate of live births.

Therefore, there is a concern regarding neonatal mortality (0 to 27 days of life), which is around 11 deaths/1000 live births and that corresponds to the high percentage of infant mortality (zero to one year of age) whose rate is 15.3 deaths/1000 live births. It is also known that most deaths occur in the first six days of life (8.1 deaths/1000 live births) and among the causes are the quality of care in this period of pre-labor and labor, immediate care at birth, and neonatal units.

Two articles in this issue address the need for judicious measures in the care to that newborn that evolved with respiratory and hemodynamic instability or digestive disorders, for example. This neonate who requires in-hospital assistance often does not tolerate receiving oral diet, which compromises breastfeeding. The Ministry of Health published in 2008 that the prevalence of exclusive breastfeeding in children under six months of age is 9.3% in Brazil and 6.7% in Minas Gerais. However, when overall breastfeeding was evaluated up to six months of age the indexes reached 77.1%. In very special cases, mainly those of low birth weight and/or preterm, and thinking about the possible risks of events and infections, criteria for the administration of enteral diet should be adopted: diet type, how to administer it, volume to be used, and when should be initiated. The biggest concern is necrotizing enterocolitis that presented an incidence of 7%, in 2012 among premature infants below 1500 g according to the Brazilian Neonatal Research Network, however other studies show variation from 2 to 22%.

Newborns are limited in responding to pathogens because they depend on antibodies transfer during fetal and neonatal early life. Therefore, newborns and, consequently, premature infants are more susceptible to infections. In Brazil, because the number of premature births is at 11.7% and of living births with low birth weight at 8.5 %, there is an increasing need of strict monitoring from the intrauterine stage.

Ministry of Health reported in 2013 on congenital infectious diseases that 11 314 congenital syphilis cases occurred in 2012, being 488 of these cases in Minas Gerais. The numbers are worrisome and one of the articles in this issue shows a practical way for conducting cases in various situations such as for example of an untreated mother and asymptomatic newborn.

Toxoplasmosis is another congenital infection that maintains high rates of prevalence, which during pregnancy deserves full care because the newborn can evolve with serious sequelae if not well approached. If an infection is suspected, a comprehensive approach and clinical and laboratory follow-up are essential for a good disease prognosis.

The importance of attention to newborns to mothers carrying the human immunodeficiency virus could not be skipped considering the risk of mother-to-child transmission. The early indication of antiretroviral drugs is described in one of the articles in this issue, which can reduce the chance of infection transmission. The Ministry of Health reported 6.3 AIDS deaths/100 000 inhabitants rate in 2012.

Another contribution to the care of newborns is the prenatal consultation with a pediatrician that must be held from 30 weeks of gestation. The pediatrician should be sought for advice in breastfeeding, infant hygiene, safety measures at home and during transportation, vaccination, neonatal screening tests, birth certificate, and planning for growth and development monitoring from childhood to adolescence.

The Medical Journal of Minas Gerais publishes review articles; this issue presents articles in various topics from the pediatrician assistance in prenatal care, immune system of fetuses and newborns to approach to congenital infections such as syphilis, toxoplasmosis, human immunodeficiency, herpes, and cytomegalovirus viruses. In addition, one of the articles shows the prevention of errors and adverse events related to quality of care to neonates who require intensive care. Related to this theme, the issue contains an update on criteria for therapeutic administration of enteral diet in newborns of low birth weight and/or preterm.

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