

Hypothetical-UMD Law School-Int'l Telehealth Conference

The Medicine: Fatima is a one-month old infant born to a single Mom in the village of Nusquam, Tenebristan. Fatima's mother is a 22 y.o primigravida who reports a normal pregnancy and the baby's birth at 38 weeks' gestation via a normal SVD. The newborn cried at birth with Apgar scores of 7 and 8. Birthweight 2.8 kg. Mild meconium staining noted. The infant attempted breast feeding with some difficulty, supplemented with formula, but overall apparent poor weight gain and intermittent cyanotic episodes.

Fatima presents for cyanosis to Hippocrates Galen, MD, her GP, the only physician in a small clinic in town. On exam, Fatima appears moderately malnourished and weighs 2.9 kg. On auscultation, Dr. Galen noted a harsh systolic heart murmur. Dr. Galen can tell that she is very ill with deepening cyanosis when crying but is uncertain of the diagnosis; he also knows that she needs care beyond what he can provide. Given the initial findings, Dr. Galen requests a telemedicine consult from a neonatologist or pediatric cardiologist using an available international telemedicine network. He has signed up to use this network and the available specialty services. This service uses an asynchronous secure Web site and has access to a broad panel of specialists. Dr. Galen's access to electricity, the internet, and broadband is very limited, however. This telemedicine service is doing data analytics to measure its impact on diagnosis, management and outcome. Dr. Galen has agreed to have his cases used in the data analysis being developed by the telemedicine service.

The Circumstances: Tenebristan is a traditional, impoverished, agrarian nation that tends to rely on traditional healers and to mistrust foreigners. Medical coverage extends to all citizens via a national security system, but resources and funding are limited. Broadband is available in only a handful of Tenebristan's larger and more prosperous cities. Its transportation system is somewhat primitive, with only a few paved highways and no railroads. The roads are unsafe, particularly during the current rainy season, and rebel groups are known to attack travelers at random. The country's only airport, in Metropolis, the capital, 600 km distant, offers flights to and from foreign countries only. With advance preparation, a helicopter may be available through either a local petroleum company or through the national military, but access is limited in general and under existing conflicts and weather conditions in particular. In Metropolis, there is also a medical center, where Dr. Surfactant, a respected neonatologist affiliated with the network, runs the NICU. Assuming there are no rebel attacks, it will take two days' travel to get there, however, and the only available ambulance lacks the capacity to provide supplemental oxygen. To transfer

Fatima, Dr. Galen will need the Metropolis medical center to assure that they a.) would be willing to accept this infant if transferred and b) have the diagnostic and medical/surgical management capacity necessary to evaluate and treat her. Dr. Galen speaks some English, but most people in Tenebristan have but limited foreign language proficiency .

Clinical Course

Using the telehealth network he subscribes to, Dr. Galen contacts Dr. Consult, describing the child's history and physical findings as well as the white blood count and hematocrit, a CXR report and oxygen saturations. Dr. Consult recommends cardiac ultrasound, a study beyond what is possible in Nusquam. Dr. Galen then telephones Dr. Surfactant at Metropolis to determine the Medical Center's ability to do the recommended additional study and to possibly accept the infant in transfer. Dr. Galen again shares Fatima's history, findings, and lab data, as well as Dr. Consult's recommendations for higher level care. Dr. Surfactant offers a differential diagnosis that includes a likely congenital cardiac abnormality. Unfortunately, to evaluate the case properly, not even Metropolis MC has resources sufficient to make the diagnosis; in addition, it lacks the ability to provide surgery if needed, as it may well be. Dr. Surfactant therefore advises Dr. Galen to have the child virtually evaluated by Dr. Acumen, at Mecca Medical Center in the United States. Dr. Galen and Surfactant contact Dr. Acumen and, employing a medical translator, present the case and determine if transfer is possible. At Mecca, Dr. Acumen can draw not only on his own expertise, but upon the knowledge and skills of both pediatric subspecialists in cardiology and cardiovascular surgery.