Fetal therapy: an eye towards the future

The field of fetal therapy has, by necessity, always involved innovation. The tools that were first used to help babies in the womb had to be borrowed from other more established fields. This borrowing continues to this day but fetal therapy has matured with its own dedicated instruments, protocols and care paths. Collaboration between maternal, fetal and pediatric providers has established a framework upon which even more rigorous innovation can occur. For example, a randomized controlled trial about open fetal surgery to repair spina bifida built upon years of animal research and early successful forays into human fetal surgery showed that fetal surgery was not only superior to postnatal surgery but that fetal therapy could be innovative in a rigorous way (1).

This series describes the current state of fetal therapy but also highlights the dramatic innovations that are taking place across the field. Novel therapy for diseases that were once universally fatal or debilitating is developing at a rapid clip in the area of gene therapy. Investigators are trialing minimally invasive techniques across the world to repair fetal spina bifida with less maternal morbidity. A randomized trial about fetoscopic tracheal occlusion for congenital diaphragmatic hernia has finished recruiting and publication its highly anticipated results is imminent. Novel therapy for anuric renal disease is being studied systematically and prospectively. Artificial environments for premature fetuses' continued development with fetal physiology are maturing and nearing clinical trials.

Fetal therapy, which began in a few labs most prominently in San Francisco, is now a mature multi-dimensional field. Therapy is offered all over the world and innovation with rigorous study, trials and continued collaboration are clearly the path forward.

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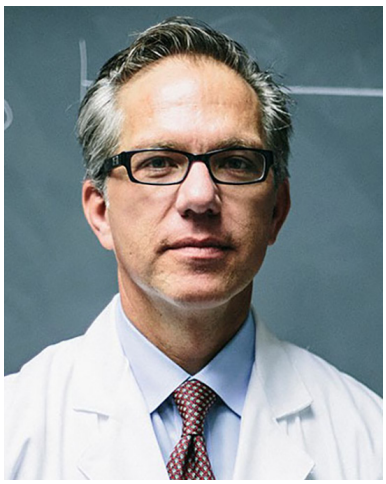

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