**PHARMACOLOGICAL REGULATION OF CEREBROSPINAL FLUID**

June Goto, PhD is a Research Instructor in the Department of Neurosurgery, Pediatric Division at Cincinnati Children’s Hospital Medical Center. Dr. Goto combines genetic analysis with biological assays to determine the pathways involved with developmental abnormalities. In her study, *Molecular characterization and pre-clinical trial in a novel mouse model of congenital hydrocephalus*, Dr. Goto will analyze the link between a genetic mutation and very early onset fetal hydrocephalus in a new animal model.

**GOAL**

Characterize new model for early onset congenital hydrocephalus

**RATIONALE**

- In many cases, the cause of congenital hydrocephalus is a mystery
- New animal models can provide novel insights into how hydrocephalus develops
- This can lead to better understanding of the condition and new drug targets

**NEW INSIGHTS WITH A NEW GENETIC MODEL**

1. Ventricles enlarge very early in development (P1) (see visual)
2. A previous theory does not apply
3. A new theory emerges

**HOW DO WE UNRAVEL A NEW MODEL?**

1. Find the Mutation
2. Identify the Gene
3. Test Protein Levels
4. Verify Expression Patterns

**WHY IS THIS WORK INNOVATIVE?**

The new animal model puts forward an alternative disease process. This may lead to new drug targets.