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Hydrocephalus Fact Sheet

About 1 in every 1000 babies is born with hydrocephalus, a condition in which too much cerebrospinal fluid builds up in the brain's ventricles. Symptoms can include vomiting, lethargy, headache, enlarged head or even seizures. There is no cure, but implanting one of our shunts often provides long-term relief.

Definition

The term "hydrocephalus" is derived from two Greek words: hydro (water) and kephale (head). Hydrocephalus is still sometimes referred to as "water on the brain." Hydrocephalus is a condition in which an excess of cerebrospinal fluid accumulates in the cavities of the brain known as "ventricles."

Causes and Types of Hydrocephalus

Under normal conditions, a delicate balance exists between the production, circulation, and absorption levels of cerebrospinal fluid in the brain's ventricles.

Hydrocephalus is the result of an imbalance of the distribution of cerebrospinal fluid. The three types of hydrocephalus include:

- Non-communicating (obstructive) hydrocephalus – Occurs when cerebrospinal fluid flow is blocked within the ventricular system
- Communicating (non-obstructive) hydrocephalus – Occurs where there is inadequate cerebrospinal fluid absorption
- Normal pressure hydrocephalus (NPH) – An increase in the amount of cerebrospinal fluid in the brain's ventricles with little or no increase in the pressure inside the head; most often seen in adults over age 60

Both non-communicating and communicating hydrocephalus can be either "congenital" (existing before or at birth) or "acquired" (developing after birth due to trauma or disease).

Symptoms

In infants and toddlers, the bones of the skull are not yet closed, and hydrocephalus may be obvious. The child's head will enlarge, and the fontanel (soft spot) may be tense and/or bulging. The skin may appear thin and shiny, and the veins of the scalp may appear full or engorged.

Symptoms may include:

- Vomiting
- Poor feeding
- Listlessness
- Irritability
- Constant downward gaze of the eyes
- Occasional seizures

In older children and adults, the bones of the skull have closed. These individuals have symptoms of increased intracranial pressure due to ventricular enlargement from the extra cerebrospinal fluid, which causes compression of the brain tissue.

Symptoms may include, but are not limited to:

- Headache
- Nausea
- Vomiting
- Visual disturbances
- Poor coordination
- Personality changes
- Lack of concentration
- Lethargy

The signs and symptoms of increasing intracranial pressure are likely to change over time, as the cranial sutures (the joints between the bones of the skull) begin to close in the infant and toddler and become fully closed in older children.

Diagnosis

There are several tests that can help in diagnosing hydrocephalus. These same studies can also help evaluate the shunt in case of malfunction or infection.

For more information: <http://www.medtronic.com/patients/hydrocephalus/index.htm>