Subdural fluid collection

Subdural fluid collections (SFC) are characteristic complications of shunting for idiopathic normal pressure hydrocephalus (iNPH) ¹.

Nontraumatic subdural fluid collection

Subdural fluid collections following intraventricular and/or paraventricular procedures in pediatric neurosurgery are common and can be hard to treat. Mirone et al. describe a technique to close cortical defects by the aid of a fibrin adhesive and subsequent Ringer inflation with the aim to avoid cortical mantle collapse and to prevent the development of subdural fluid collections. They report the preliminary results of a prospective study on a consecutive series of 29 children who underwent 37 transcortical or transcallosal surgical procedures since 2008.

In 17 procedures, they performed a transcortical approach on lesions, and in other 19 operations, we operated by a transcallosal. In 5/17 transcortical approaches (29 %) and in 3/20 transcallosal approaches (15 %), they observed a 5-mm-thick subdural fluid collection of the 5 patients with subdural fluid collections in the transcortical group, 3 patients (17 %) underwent surgery for symptomatic or progressive subdural fluid collections. Of the 3 patients in the transcallosal group, a subduro peritoneal shunt was necessary only for 1 patient (5 %). At the very end of the treatment (including chemotherapy and radiotherapy), it was possible to remove the subduro-peritoneal shunt in all these patients because of disappearance of the subdural fluid collections.

In pediatric patients after transcortical or transcallosal procedures, the use of a fibrin adhesive to seal surgical opening and subsequent inflation of the residual cavity with Ringer lactate solution to avoid cortical mantle collapse seems safe and appears to prevent the development of subdural fluid collections ².

A subdural effusion is a collection of fluid trapped between the surface of the brain and the dura mater.

Usually, the natural course of subdural effusion developing after intracranial surgery is self-limiting showing spontaneous resolution with passage of time leading to resolution of mass effect or very rarely may have slow progression requiring neurosurgical intervention ³ ⁴.

Types

see subdural empyema.
see subdural hematoma.
see subdural hygroma.
see External hydrocephalus
Symptoms

Bulging fontanelles in babies
Increased head circumference
Lethargy
Persistent fever
Seizures
Separated sutures in babies
Vomiting
Weakness or loss of movement on both sides of the body

Exams and Tests

CT scan of the head
Head size (circumference) measurements
MRI scan of the head
Ultrasound of the head

Treatment

Surgery to drain the effusion is often necessary. Rarely, a permanent drainage device (shunt) is needed to drain fluid. Antibiotics may need to be given through a vein.

see subduroperitoneal shunt


