

Title and Author(s)

Title: **Follow-up of subdural hemorrhage**

Authors: Erin B. Macklin

Supervisor Name / Affiliation: Stephanie Setter,
University of Iowa Hospitals and Clinics, Iowa City, IA

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Introduction or Patient History

A 31 year-old male came to the University Hospital on 2/06/06 with the condition of having his VP-shunt removed, which he had placed at the age of four. He was experiencing increased headaches and seizures. Upon this history he was given a head CT of the brain. The findings from the CT were: Longstanding large right middle cranial fossa subdural fluid collection with mass-effect on the right temporal lobe and remodeling of the surrounding bone. Possible herniation of fluid collection into anterior peri mesencephalic cistern. No intracranial hemorrhage is detected. He was also given a MRI of the brain w/wo contrast on that same day. The findings from the MRI were: Right subdural fluid collection, with right temporal encephalomalacia. This case is the follow-up from his last MRI given in February to evaluate the subdural hemorrhage and hygroma, also the right temporal arachnoid cyst .

Patient Preparation and Scan Set up

The exam was to be completed on a Siemens 1.5T scanner. After going over the MRI screening sheet and verifying all the patient information to ensure his safety, he was then brought into the room. Once in the room we went over what was going to be scanned and what to expect during the exam. He was told approximately how long the exam would run, and that it was very important for him to hold his body still during the whole process. He was then placed in the supine position with his head first. Also ear plugs were given to cut down on the noise during the exam, along with a pillow under his knees for comfort. The head coil was placed over his head and locked in the proper placement. He was then positioned correctly and inserted into the bore. Before leaving, we once again made sure he would be comfortable in the magnet.

MR Imaging Parameters

These were the following parameters:

<u>Sequence</u>	<u>TR</u>	<u>TE</u>	<u>Images</u>	<u>Slice Thickness</u>
Loc	20 GR	5.0	3	10 skip 2
Sag. T1	400 SE	12	16	5 skip 2
Axial FLAIR	9000 SE/IR	113	22	5 skip 2
Axial T2	3860 SE	89	22	5 skip 2
Axial T1	442 SE	12	22	5 skip 2
Axial GRE T2	470 GR	13	22	5 skip 2
DTI Source	3000 SE/EP	73	175	5 skip .5
Sag. T1 Post	400 SE	12	16	5 skip 2
Axial T1 FS Post	461 SE	12	22	5 skip 2
Cor. T1 Post	400 SE	12	19	5 skip 2

******* After the DTI source ran the administration of 15cc of gadolinium was given.**

Findings and Discussions

From the history of the previous MRI the radiologist were to look at the subdural hemorrhage and hygroma, along with the right temporal arachnoid cyst. The findings were as follows: Post-surgical changes for right frontal craniotomy are noted. Again noted is a large right convexity extra-axial fluid collection which appears homogenous with CSF intensity. There is no evidence of internal enhancement. No restricted diffusion is noted. Right anterior temporal lobe encephalomalacia is again noted. There is no evidence of abnormal signal intensity. The sella appears empty which is stable from the prior study. The remainder of the study is stable

Conclusions

The reason I chose this man as my case study was to find out more about the VP-shunt and how it correlated to CSF fluid. Also to learn more about seizures. The VP-shunt is surgically inputted into the head to create a communication between the ventricular system of the brain and the peritoneal cavity, for the relief of intracranial pressure. CSF passes out through the shunt system and enters the peritoneal cavity where it is absorbed. This surgically invasive procedure is very common among children. That was a surprise to me. Also this man was suffering from headaches and seizures before his CT's and MRI's were performed. Some known causes for seizures are mesial temporal sclerosis, tuberous sclerosis, tumors, traumatic scarring, and vascular malformation intracranial and infections. MRI is a great modality to detect the smallest of diseases in the human body or in this case, not so small, to better effectively treat the patient.

References

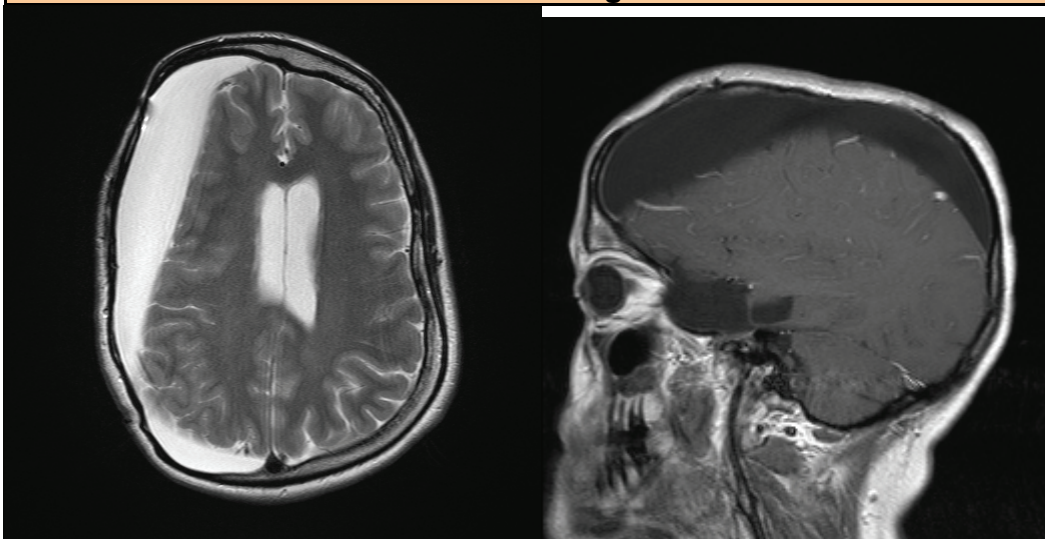
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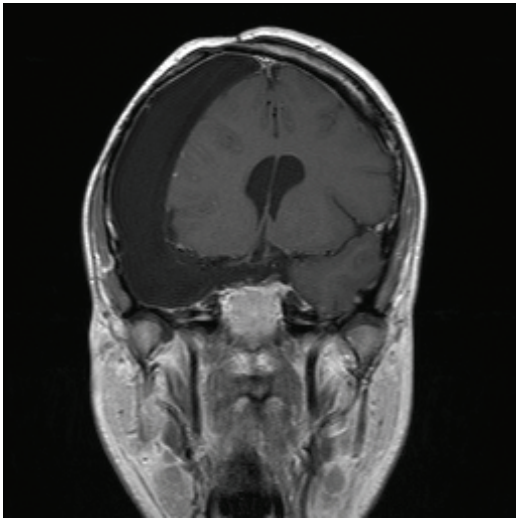
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Images



Axial T2 pre gad. :22 images

Sagittal T1 post gad. : 16 images



Coronal T1 post gad: 19 images