

SMRT Student Scope Submission

Title and Author	
<input type="checkbox"/>	<p>Title: Craniopharyngioma</p> <p>Author: Lisa Houseman</p> <p>Supervisor/Education Coordinator: Adam Stevens, University of Nebraska Medical Center</p> <p>Date of Submission: May 4, 2007</p>
Introduction or Patient History	
<input type="checkbox"/>	<p>This patient is a 22 year old male with craniopharyngioma that is under the optic chiasm. He complains of headaches and vision changes. I know very little of the patient's history prior to arriving at Midwest Neuro Imaging. He has had 2 surgeries because of acute visual deterioration. His vision is poor in the left eye but the right eye is adequate. He has received radiation to treat this tumor as well.</p>
Patient Preparation and Scan Set up	
<input type="checkbox"/>	<p>A GE 1.5 Tesla MR scanner was used for this study. The patient was screened prior to the study to ensure there was no metal in their body that could harm the patient or disrupt the scan. The patient was positioned in the scanner supine and head first. The patient's head was properly aligned and sponges were placed around the head to ensure no movement. A reminder to the patient was given to recommend them to make as little movement as possible. The patient was given head phones to help drown out the noise.</p>

MR Imaging Parameters

Sequence	FOV	Slices	TR	TE	Spacing	Matrix
Sagittal T1	24	17	2000	7.7	5 skip 1.5	256
Axial Flair	24	22	9002	136	5 skip 1.5	320x192
Axial T2	24	22	4900	117	5 skip 1.5	320x256
Axial T2 Diffusion	26	44	10000	100	5 skip 1.5	128
Coronal3mm	18	14	750	22	3 skip 0.5	320x192
Sagittal 3mm	18	12	600	22	3 skip 0.5	320x192
Cor 3mm+C	18	14	700	22	3 skip 0.5	320x192
Sag 3mm+C	18	12	500	16	3 skip 0.5	320x192



Findings and Discussions

The results of this Brain and Sella MRI demonstrated a complex cystic and solid mass that is seen in the suprasellar region near the hypothalamus. The mass is measuring 3 x 3.2 x 3 cm in size. The features of this tumor represent an increase in size. The cystic component is larger than the solid portion. The enhancing central element of the solid portion is measuring 1.8 x 1.8 cm in size. There is edema tracking into the gray structures and surrounding the mid brain. There is some postoperative enhancement along the dura. The ventricles appear to be normal in size. The brain stem and cerebellum appear normal. There is no evidence of midline shift.



Conclusions



After reviewing this case I have learned that craniopharyngioma is a benign tumor that usually sits close to the pituitary gland. This tumor usually affects children 5-10 years of age but can affect adults as well. In this case it is close to the optic nerve on the left side. This patient has experienced very poor vision in this eye. The right eye is adequate. Surgery is being suggested to this patient to aggressively remove this tumor. The surgery would best be handled on the left side because the optic nerve has already been damaged. Most of these patients need life-time follow-up. The tumors can have re-growth and continued MR imaging will help detect any changes. Craniopharyngiomas can be difficult to diagnose. Loss of vision is a common indication that present with these tumors. The tumor will put pressure on the optic nerves and cause severe vision loss. There is much discussion on the appropriate plan of action on these tumors. Common treatment options are complete removal of the tumor or partial removal followed by radiation therapy. The surgeries of both are intense and risky because of the vital arteries that supply blood to the brain. The surgeon's expertise in determining the extent of the tumor is very important in the treatment of each patient.

References



Boston Neurosurgical Foundation. Craniopharyngioma.

<http://www.bostonneurosurg.org>

Mayo Clinic. Treatment of Craniopharyngioma at Mayo Clinic.

<http://www.mayoclinic.org/craniopharyngioma/>

Schlaepfer, Christian. MRI examination dictation, staff radiologist.

Midwest Neuro Imaging. 9 January 2007

Images



