Case 1: Craniotomy

Discharge summary:

Admitting diagnosis: Ataxia, nystagmus, vomiting. R/O head injury.

Discharge diagnosis: Grade 1 Ependymoma of the cerebellum, left flaccid hemiparesis, cerebellar ataxia due to neoplasm.

Procedures:

MRI, PET, Myelogram, Craniotomy

History of present illness:

Seven-year-old Hispanic male brought to ED by his mother with a two-day history of poor coordination, falls, and irritability. Today she noticed his eyes were "moving funny" and he began vomiting.

Past medical history:

Chronic otitis media, bilateral myringotomy and tubes at age 2.

Allergies:

Amoxicillin, Biaxin

Hospital course:

Unremarkable

Disposition:

Home

Discharge condition:

Stable

Discharge medications:

None

Discharge instructions:

Diet as tolerated. Tylenol for pain. Post op check in Neurosurgical Clinic in one week. Appointment with Pediatric Oncology Team in 3 days.

Emergency department:

Chief complaint: New onset clumsiness and repeated falls. Irritability and vomiting, unusual eye movements.

HPI: Patient was in his usual state of good health until 2 days ago. Mother noticed he was tripping and falling and seemed to drag his left leg. He denied pain, just said his left side felt "heavy" and was not "working right." This morning he refused breakfast and then began vomiting. Mother noticed his eyes were moving very quickly from side to side. She asked a neighbor to drive them to the hospital.

Assessment/Plan: MRI to R/O head injury. Admit to Peds Floor.

Admission history and physical:

Chief complaint: Vomiting, left side weakness and poor coordination

History of present illness: Patient describes feeling like his left side was "heavy" two days ago and that he fell down a lot when he was playing soccer. He does not recall striking his head when he fell. He denies pain. When he woke this morning, his stomach felt upset so he refused breakfast and watched some TV. He had trouble focusing on the TV because his eyes were "moving funny" and then he suddenly began vomiting.

Allergies: Amoxicillin causes rash.

Past medical history: Chronic otitis media treated with bilateral myringotomy and tubes.

Social history: Lives with his mother and older brother. Home is about 15 years old, no lead paint. He will be going into the 2nd grade in the fall. His mother is a teacher at the school he and his brother attend. Father is currently unemployed.

Family history: Significant for seizure disorder in maternal aunt.

Physical examination:

General: Thin Hispanic male lying on his side, curled up, knees to chest with his eyes tightly closed.

HEENT: Head is NCAT. Eyes are difficult to examine due to nystagmus but pupils appear to be equal and reactive. Conjunctiva is clear. Nares patent, mucous membranes moist and pink. Good oral hygiene. Upper central incisors are both gone and permanent replacement teeth are just erupting through the gum. Pharynx clear. TMs intact without redness. Neck supple without lymphadenopathy.

Lungs: Breath sounds clear, equal bilaterally.

Cardiac: Apical heart rate regular without murmur, bruit, or rub. Peripheral pulses are full but not bounding.

Abdomen: Soft, flat, non-tender. Bowel sounds hyperactive in all quadrants. Liver palpated at 2 cm below RCM, spleen is not palpated. No evidence of hernia. Testis down, uncircumcised penis with easily retracted foreskin. Good hygiene, no urethral drainage. Rectal sphincter tone is WNL.

Extremities: No edema or unusual swelling. No muscle atrophy or hypertrophy.

Neurologic: Alert and oriented x 3. No evidence of facial hemiparesis. Voice quality is normal. Cranial nerves are grossly intact. Primitive and superficial reflexes are equal bilaterally. Deep tendon reflexes are 2/5 right and 1/5 left, upper and lower. Muscle tone is 3/5 upper left, 2/5 lower left and 5/5 upper and lower right. Patient is able to stand with assistance and maintain

upright poise unassisted with feet positioned wide apart. He falls to the left when attempting heel-toe tandem walking and there is marked dyssynergia, ataxia, and atonia in the left lower extremity.

Assessment: Ataxia with left side hemiparesis. R/O intracranial lesion.

Plan: MRI

Report: MRI shows a single hypointense lesion in the midcerebellum with poorly defined borders and mild peritumoral edema. After gadolinium was administered, the tumor was more defined, measuring 2.0 x 1.3 cm with a heterogeneous ring. A myelogram and PET scan were then performed and were negative for additional tumors.

Operative report:

Preoperative diagnosis: Mid cerebellar lesion

Postoperative diagnosis: Grade 1 Ependymoma, mid-cerebellum

Operative procedure: Suboccipital craniotomy with excision of tumor

Anesthesia: General endotracheal

Detailed operative note:

After successful endotracheal anesthesia was established, the Mayfield head holder was applied and the patient rolled into a prone position. Hair was shaved from the suboccipital area and the skin prepped and draped in the usual manner. A linear incision was made in the midline of the suboccipitus and carried down to the bone. Craniotomy was accomplished with minimal blood loss and the bone lifted from the surgical field to expose the dura. A linear hemispheric approach was used to enter the cerebellum and access the tumor. A well circumscribed, gray, granular, necrotic-appearing mass was identified.

The tumor margins were fairly well demarcated from adjacent normal white matter. Gross total resection of the tumor was accomplished and sent to pathology. Histological report was Ependymoma, grade to be determined. Bleeding was minimal and the dura was closed with running and interlocking 4-0 Nurolon and gelfoam placed over the incision. The bone flap was replaced and secured with Lorenz microplates. The muscle and fascia were closed in layers using 2-0 Vicryl

and the skin closed with 3-0 Nylon. A sterile dressing was applied. Patient was turned supine and the Mayfield head holder removed. He was transported to the Neurosurgical ICU intubated and sedated.

Progress notes:

Day 1: Extubated without difficulty 8 hours after surgery. Alert and oriented x 3. He has c/o minimal pain that is well controlled with MS via IVP. He states he is hungry and has tolerated a popsicle and ice chips. Diet will be advanced as tolerated. He continues to have mild weakness, flaccid hemiparesis on left side, lower extremity more pronounced than upper.

A/P: Stable on PO Day 1. Transfer to Neurosurgical stepdown unit as soon as bed is available. PT to evaluate.

Day 2: Unable to get patient into a bed on the Neurological stepdown unit and he was transferred to Pediatric floor with a Neurosurgical ICU nurse assigned to his care. He is tolerating a regular diet. Pain well controlled with oral Tylenol. His IV was converted to a Heplock for antibiotic administration. Final pathology report is available and shows a Grade 1 Ependymoma. Pediatric Oncology has been notified. PT has evaluated patient and he continues to have deficits in central vestibular processing, most notably ataxic gait and left flaccid hemiparesis.

A/P: Stable on PO Day 2. Anticipate discharge tomorrow with in-home PT. Social Services and Discharge Planning to interview mother and make necessary arrangements for home health assistance.

Day 3: Stable post-operative course. Patient is anxious to go home. He has no nausea or vomiting and has not taken pain medication in the last 12 hours. Regular diet is tolerated well. He is able to ambulate safely using walker.

A/P: Stable for discharge home. Follow up with Neurosurgical Team and Pediatric Oncology.

Codes:

ICD-10-CM:

ICD-10-PCS:

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Case 2: Evacuation of Subdural Hematoma

Preoperative diagnosis:

Large right cerebral convexity from nontraumatic acute and chronic subdural hematoma

Postoperative diagnosis:

Large right cerebral convexity from nontraumatic acute and chronic subdural hematoma

Operative procedure: right frontoparietal craniotomy, evacuation of subdural hematoma, placement of subdural drain to suction bulb

Surgeon: Neurosurgeon, MD

Anesthesia: General endotracheal

Prep: Iodine Povacrylex and isopropyl alcohol

Description of the procedure:

The patient presented to the operating room. After satisfactory induction of general endotracheal anesthesia, the patient was positioned supine on the operating table. A shoulder bolster was placed to facilitate positioning and 3-point fixation was applied to the skull. The head was gently rotated to the left and the head secured to the operating table with a Mayfield adaptor. The arms were tucked by the sides. All bony prominences were padded. He had a free-flowing peripheral IV and was monitored with electro-cardiogram, Telemetry, pulse oximetry, a temperature probe, and a radial arterial line. Clindamycin 900 mg intravenous was given prior to the incision. The right side of the scalp was shaved with an electric razor and then the skin prepped and draped sterilely. 0.5% Bupivacaine HCl with 1:200,000 units epinephrine was infiltrated locally, a total of approximately 30 cc for the entire case.

A standard curvilinear incision was made on the right side, extending just in front of and above the right ear and then posteriorly into the parietal region and then anteriorly toward the frontal region along the mid-pupillary line. Dissection was carried down with cautery and galeal bleeders controlled with cautery, bipolar cautery, and Raney clips. The temporalis fascia muscle was also incised with cautery and then the skin flap and muscle reflected as a single unit inferiorly and held open with fishhooks. Three burr holes were placed. The dura mater was stripped with a #1 and #3 Penfield. A right frontoparietal bone flap was then elevated with the craniotome without difficulty. Circumferential dural tack-up sutures were applied. The dura mater was opened with #15 blade scalpel and then with dural scissors. There was acute on chronic subdural blood, which was released with suction and irrigation. No obvious point sources of bleeding were identified and the subdural compartment at this point appeared dry. The brain was pulsatile and did start to slightly expand, although there was still some indentation at the time of closure. I placed a round #10 French fluted drain in the subdural space and brought it out through a separate trocar incision posterior to the parietal burr hole. This was later connected to a sterile suction bulb and secured to the skin with 2-0 silk. The dura mater was then closed with a running 4-0 Nurolon. Dural regeneration matrix was also left in the epidural space. A central tack-up suture was also applied and then the bone flap was secured with two medium-sized burr hole covers, one that would allow a drain to come out of the parietal burr hole and also a square connector and multiple 4 mm Walter Lorenz screws. The temporalis fascia and muscle were reapproximated with simple interrupted 0 Vicryl. The Raney clips were removed. The skin flap was then closed in several layers using inverted interrupted 2-0 Vicryl for the galea and staples for the skin. The wound was dressed sterilely. All counts were correct x2. Estimated blood loss was 250 cc and none was replaced. There were no immediate complications. Three-point fixation was removed and the patient was transferred to the recovery room in stable condition.

Codes:

ICD-10-CM:

ICD-10-PCS:

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