UPMC
LIFE CHANGING MEDICINE

SINONASAL CARCINOMA WITH INTRACRANIAL EXTENSION PRESENTING AS RAPIDLY PROGRESSIVE DEMENTIA WITH FRONTAL LOBE DYSFUNCTION

Rachel Brown, MD, Jonathan Punzi, MD, Priyanka Amin, MD

University of Pittsburgh Medical Center, Western Psychiatric Hospital

BACKGROUND: RAPIDLY PROGRESSIVE DEMENTIA (RPD) AND APATHY SYNDROMES NECESSITATE A THOUGHTFUL WORKUP.

RPD: Conditions that progress from onset of first symptom to dementia in <1-2 years may be classified as RPDs.[1]

Most Common Causes of RPD[2]
Primary dementias (e.g. Alzheimer's)
Prion disease
Autoimmune etiologies
Encephalitis

Apathy: Functionally impairing reduction in goal-directed activity, evidenced by diminished initiative, interest, or emotional responsiveness [3]

- Distinct from depression and generalized cognitive dysfunction [4]
- Associated with functional decline, early institutionalization, caregiver burden, and increased mortality [5]

CASE: 61 YO MALE PRESENTS TO PSYCHIATRIC ED AT URGING OF ROOMMATE, FOR 1-2 MONTHS OF ERRATIC BEHAVIORS

CHIEF COMPLAINT: "I'M WORRIED HE'S USING AGAIN"

Psychiatric History
- Alcohol Use Disorder in sustained remission (4 years)
- Cocaine Use Disorder in sustained remission (>10 years)

Medical History
- 40 pack years (active tobacco use)
- Sinonasal squamous cell carcinoma (SCC), s/p resection 3 years prior

History of Present Illness
Roommate concerns:
- Isolative, dismissive, "shut down"
- Failure to pay rent or attend work
- Leaving stove on, burning food
- Unusual behaviors: leaving home late, deadbolting bedroom door

Patient concerns: None.

Mental Status Exam
Clothes loose on frame. Wearing work boots without socks.
Mood: "I don't know"
Affect: Peppy, with blithe indifference
Alert; not oriented to date
Impaired recall and attention
No cranial nerve or gait deficits

INITIAL MANAGEMENT: INVOLUNTARY PSYCHIATRIC ADMISSION, WORKUP FOR COGNITIVE DECLINE

- Admission decision driven partially by impaired insight and judgment
- Negative urine drug screen. CMP, CBC, TSH unremarkable. B12 around 500.
- No evidence of alcohol withdrawal. Received empiric thiamine supplementation.
- MoCA: 13/30
- Inpatient observations: "Overly social." "Indifferent." "Unbothered."
- Denied headache, blurred vision, incontinence.

DIAGNOSIS: MASSIVE SINONASAL SCC RECURRENCE WITH FRONTAL INTRACRANIAL EXTENSION

8.4 x 5.2 x 6.4 cm mass. 1.6 cm leftward subfalcine herniation. 0.6 cm leftward midline shift. Vasogenic edema involving left frontal lobe, right frontal lobe, basal ganglia, subinsular region, and right frontal lobe.

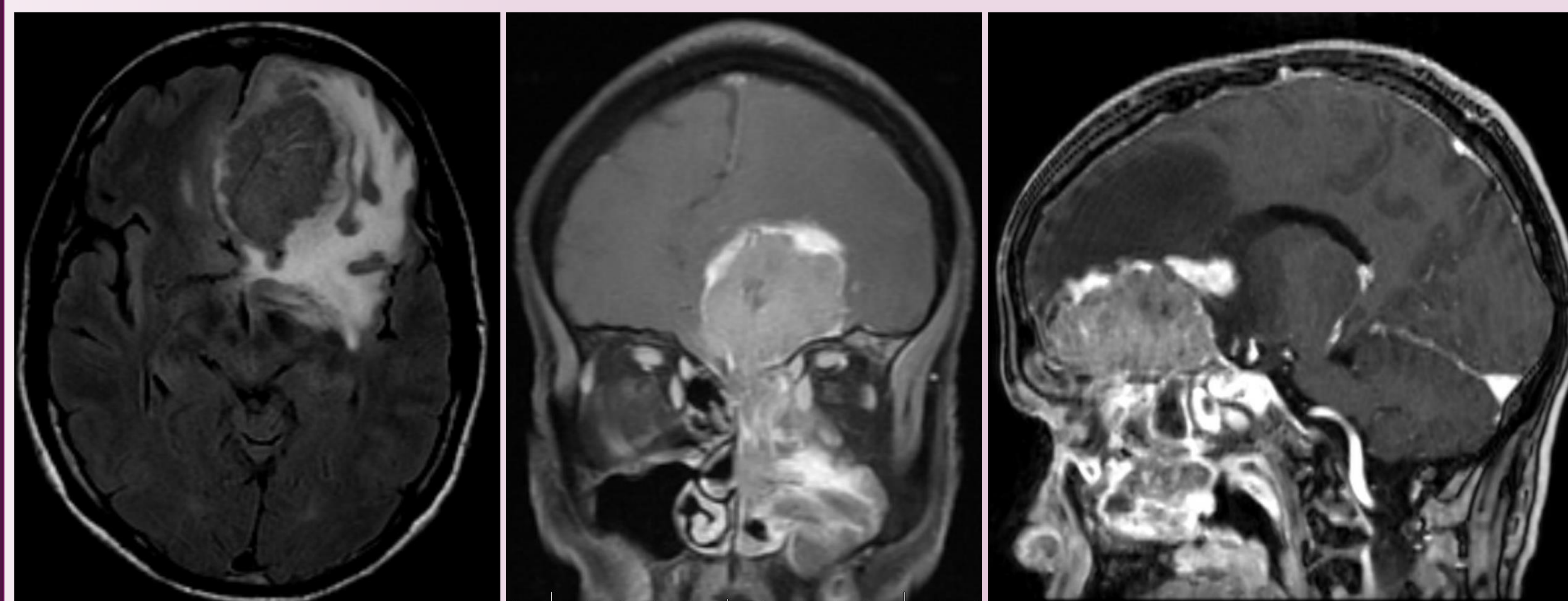
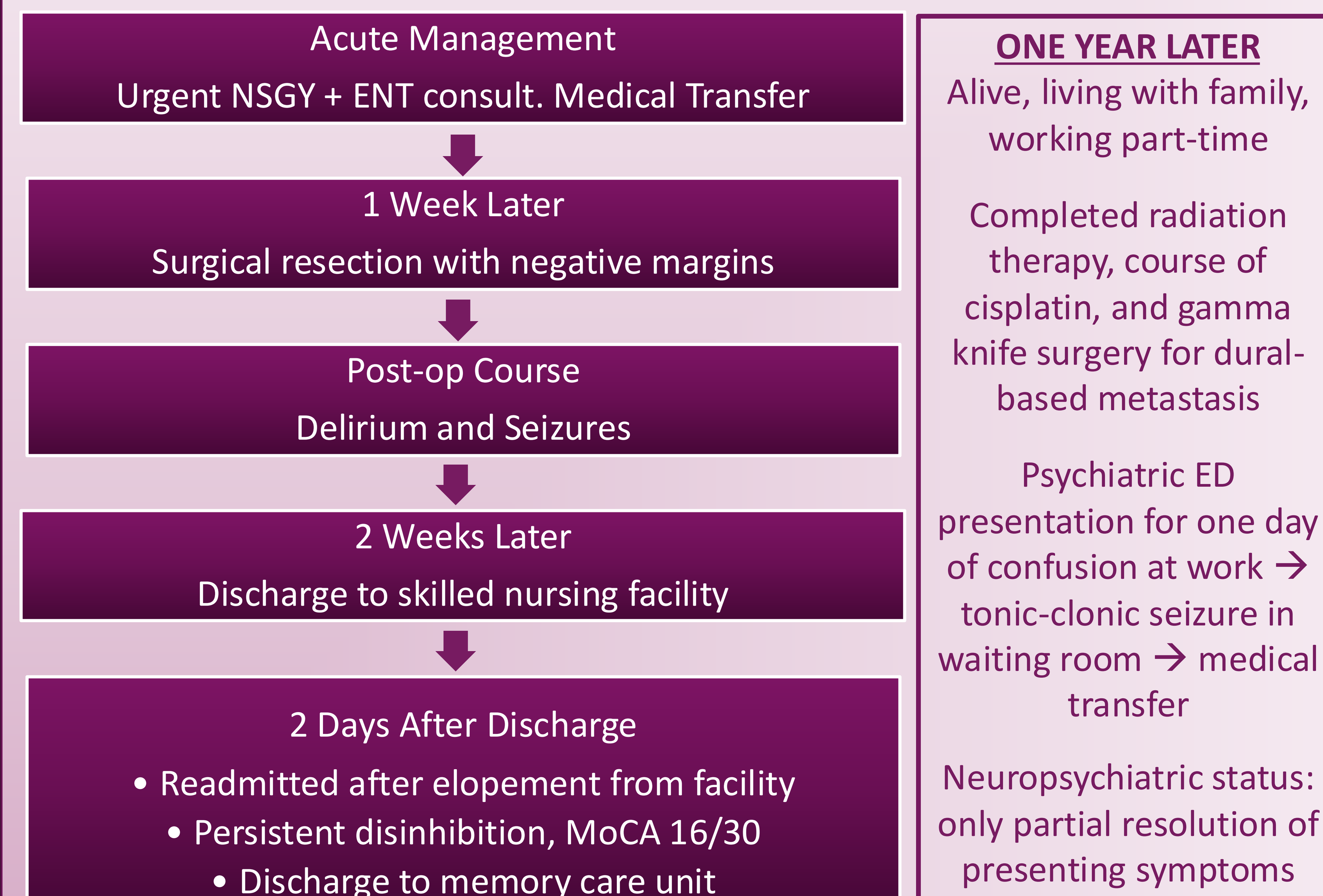


Image 1. Transverse T2 Sequence | Image 2. Coronal Contrast-Enhanced T1 Fat Saturation | Image 3. Sagittal Contrast-Enhanced T1 Sequence

DEFINITIVE MANAGEMENT AND PROGNOSIS: NEUROSURGICAL/ENT RESECTION. PERSISTENT DEFICITS IN MEMORY AND EXECUTIVE FUNCTION.



DISCUSSION: NEUROPSYCHIATRIC PRESENTATIONS OF SINO-NASAL CANCER MAY COMPRISE A SIGNIFICANT PROPORTION OF CASES AND REQUIRE PROMPT MANAGEMENT

- Sinonasal carcinomas are rare, usually diagnosed at advanced stages, and typically present in the 6th to 7th decade with nasal obstruction, rhinorrhea, or epistaxis. They portend high morbidity and 50% 5-year mortality.[6]
- "Frontal lobe syndrome" was the presenting features of two out of 18 cases of large sinonasal cancer with intracranial extension (11%; both with adenocarcinoma) in a Dutch retrospective cross-sectional study.[7]
- We believe this is the first case of sinonasal **SCC** with such presentation.

DISCUSSION: PSYCHIATRIC SYMPTOMS MAY BE THE PRESENTING SYMPTOM OF AN INTRACRANIAL MASS AND MAY PERSIST AFTER RESECTION

- Intracranial space-occupying lesions most commonly present with headache, vomiting, numbness, weakness, seizures.[8]
- Brain masses can rarely present with behavioral changes alone, but those symptoms usually do not offer localizing value (though medial frontal tumors are classically linked with apathy, in alignment with this case's presentation).[9]
- Psychiatric symptoms associated with brain tumors sometimes improve after surgery, but residual psychiatric disturbance is common. [9]

CLINICAL IMPLICATIONS FOR THE CONSULTATION-LIAISON (CL) PSYCHIATRIST

The CL psychiatrist can be a crucial advocate for diagnosis of rapidly progressive dementia, especially when such pathology impairs insight and treatment-seeking behaviors.

Neuropsychiatric changes related to space-occupying intracranial masses may not resolve with resection, and thus psychiatric follow-up may be warranted.

Patients with known history of sinonasal carcinoma with unexplained new onset behavioral changes should prompt careful consideration of head imaging.

REFERENCES