Comprehensive cancer institute - new patient thoracic oncology consultation

Date of consultation: august 16, 2023

Reason for consultation: new diagnosis of stage iv alk-positive lung adenocarcinoma on july, 25 2023 with brain and pleural metastases. Consultation for definitive diagnosis confirmation (pending full molecular results) and initiation of systemic therapy.

History of present illness:
ms. Hipfire is a previously healthy 52-year-old female non-smoker who presented to the emergency department on july 25, 2023, after experiencing two weeks of progressively worsening headaches, described as global, constant, pressure-like, associated with nausea and mild photophobia. Three days prior to presentation, she developed acute onset of blurred vision and word-finding difficulties. Neurological consultation in the ed prompted urgent brain imaging.

Diagnostic workup (records reviewed & in progress):

- **Brain mri w/wo contrast (july 25, 2023):** revealed multiple (at least 8) ring-enhancing intra-axial lesions scattered throughout both cerebral hemispheres and cerebellum, ranging in size from 0.5 cm to 2.2 cm (largest in l temporal lobe). Significant vasogenic edema surrounded the larger lesions, causing mild mass effect and effacement of adjacent sulci. Findings highly suspicious for metastatic disease. Patient started emergently on high-dose dexamethasone (10mg iv load, then 4mg iv q6h) by neurology service.
- **Ct chest/abdomen/pelvis w/ contrast (staging, july 26, 2023):**
    - *Chest:* revealed moderate-to-large right pleural effusion with associated diffuse nodular pleural thickening. No discrete primary parenchymal mass clearly identified, though pleural disease extensive on right. Mild mediastinal adenopathy noted.
    - *Abdomen/pelvis:* no evidence of metastatic disease below the diaphragm.
- **Thoracentesis (performed by pulmonary service, july 28, 2023):** 1.5 liters serous fluid removed. Patient reported improvement in mild baseline dyspnea after procedure.
    - **Cytology (preliminary report):** positive for malignant cells, consistent with adenocarcinoma.
    - **Cell block prepared:** sent for immunohistochemistry (ihc) and comprehensive molecular profiling (ngs).
- **Pathology results (preliminary - received aug 14, 2023):**
    - *Ihc:* tumor cells positive for ttf-1, napsin-a; negative for p40. Confirms adenocarcinoma, lung primary favored.
    - *Alk ihc (d5f3):* **positive (strong, diffuse staining)**. --> *this strongly suggests an alk rearrangement.*
    - *Pd-l1 ihc (22c3):* **tps 0%, cps <5, ic score 0**.
    - *Ngs panel (e.g., foundationone liquid/tissue or equivalent):* **pending full report.** Expect confirmation of alk fusion.

Summary of diagnosis (presumptive based on ihc, pending ngs confirmation): stage iv (tx n1-2 m1c - brain, pleura) lung adenocarcinoma, **strongly suspected alk-rearrangement positive** based on positive alk ihc, pd-l1 negative.

Past medical history: none significant. No surgeries. Never-smoker. Family hx: maternal aunt with breast cancer.

Social history: works as a fashion editor. Married, supportive spouse present. Denies tobacco/alcohol/illicit drugs.

Current medications (started by neurology/hospital team):

- Dexamethasone 4 mg po q6h (currently tapering, now on 4mg po bid per neurology outpatient plan)
- Levetiracetam 500 mg po bid (seizure prophylaxis given metastatic burden/edema)
- Pantoprazole 40 mg po daily (gi prophylaxis for steroids)

Review of systems: headache significantly improved on dexamethasone (now mild, intermittent). Vision blurring resolved. Word-finding difficulties markedly improved but perhaps "not quite 100% back to normal" yet. Reports mild residual dyspnea on exertion. No chest pain. Fatigue moderate (attributed to steroids/illness). Appetite increased on steroids. Experiencing mild insomnia related to steroids. Denies fever, chills, weight loss.

Objective:

- *Vitals:* t 37.1, bp 135/85 (mild steroid effect), hr 80, spo2 97% ra. Ecog ps 1. Mild cushingoid facies noted.
- *Exam:* alert, oriented x4. Fluent speech. Cranial nerves intact. Strength 5/5. No visual field cuts on confrontation. Lungs: decreased breath sounds r base. Cor: rrr. Abd: soft. Ext: no edema. Skin: mild acne on back (steroid effect).

Assessment:
ms. Hipfire is a 52-year-old never-smoker with newly diagnosed stage iv lung adenocarcinoma presenting with symptomatic brain metastases and malignant pleural effusion. Pathology confirms adenocarcinoma, and strong positive alk ihc makes an alk rearrangement highly likely (awaiting ngs confirmation). She has had a good initial response to high-dose steroids for management of cerebral edema. Performance status is good (ecog 1). She is an urgent candidate for initiation of alk-targeted systemic therapy and further management of cns disease.

Plan:

1. **Systemic therapy:**
    - Given the high likelihood of alk rearrangement based on positive alk ihc, and the need for rapid systemic and cns control, initiation of a next-generation alk tyrosine kinase inhibitor (tki) is indicated **without waiting** for ngs confirmation (can adjust later if ngs reveals something unexpected, which is highly unlikely).

- **Prescribe alectinib (alecensa) 600 mg po bid.** Alectinib is preferred due to its high systemic efficacy, excellent cns penetration, and generally favorable tolerability profile. Start date asap (today), pending immediate insurance navigation/approval (stat request submitted).
- Provide extensive patient/family education on alectinib administration (take with food), potential side effects (myalgia/cpk elevation, lft elevation, constipation, edema, bradycardia, photosensitivity, rare ild), adherence, drug interactions, and clinic contact info. Dispensed starter pack/info booklet.

2. **Management of brain metastases:**
    - **Radiation oncology consultation:** urgent referral placed today for evaluation for stereotactic radiosurgery (srs) to all identified brain lesions. Aim to coordinate srs within 1-2 weeks, concurrent with initiation of alectinib. Alectinib provides good cns control but upfront srs is generally recommended for numerous/symptomatic lesions for durable local control.
    - **Continue dexamethasone:** maintain current dose (4mg po bid) pending srs consultation and treatment. Plan for gradual taper post-srs as tolerated, guided by neurological symptoms and follow-up imaging, coordinated with neuro-oncology/rad onc. Continue pantoprazole while on significant steroid doses.
    - **Continue levetiracetam 500 mg po bid** for seizure prophylaxis given metastatic burden and edema history. Re-evaluate need long-term based on cns disease control and eeg if indicated later.
3. **Management of pleural effusion:** monitor symptoms (dyspnea, cough). Repeat therapeutic thoracentesis prn for symptomatic relief while awaiting systemic effect of alectinib. Defer consideration of pleurodesis/ipc for now.
4. **Monitoring:**
    - Close clinical follow-up: return to clinic (or telehealth check-in) in 1 week after starting alectinib for toxicity check, steroid assessment. Then q2 weeks initially.
    - Labs: baseline cbc, cmp (incl lfts), cpk obtained today. Repeat labs weekly x 2 weeks, then q2 weeks x 1 month, then monthly (close monitoring of lfts/cpk initially).
    - Imaging: first brain mri ~4 weeks post-srs. First restaging ct chest/abdomen/pelvis ~8 weeks after starting alectinib.
    - Follow up on final ngs results when available (expected 1-2 weeks).
5. **Supportive care:** address steroid side effects (insomnia - consider low dose trazodone prn; hyperglycemia monitoring - baseline glucose normal; mood changes - monitor). Encourage hydration. Provide prn anti-emetic/anti-diarrheal prescriptions (less likely needed with alectinib).

Prognosis: discussed prognosis guardedly given stage iv diagnosis with brain mets, but emphasized that alk-positive lung cancer is highly treatable with targeted therapy like alectinib, offering potential for prolonged disease control (often years) and good quality of life, including excellent intracranial control.

Follow-up: clinic visit in 1 week. Rad onc / srs consult pending scheduling.

Patient: Hipfire, Audrey Kathleen **Date of Birth:** 09/01/1971 **MRN:** SYN124