First Case of Acquired EGFR C797S Mutation Rendering Resistance to Osimertinib, followed by a near complete response with first generation EGFR TKI in a patient with EGFR mutated NSCLC

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Disclosure of Conflicts of Interest

- Jared Reed, MD, has no relevant financial relationships to disclose.

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Patient Presentation

- 67 yo female patient with PMH mitral valve prolapse
- Non-smoker
- Presented with left sided chest pain
- Cardiac workup unremarkable, CXR revealed left-sided chest mass

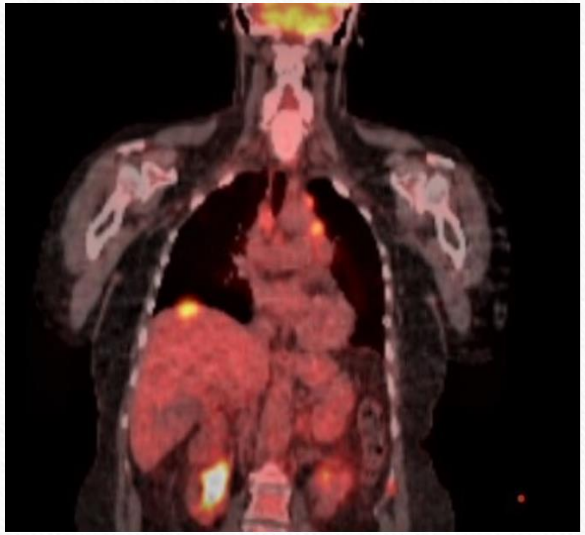
Initial Diagnosis

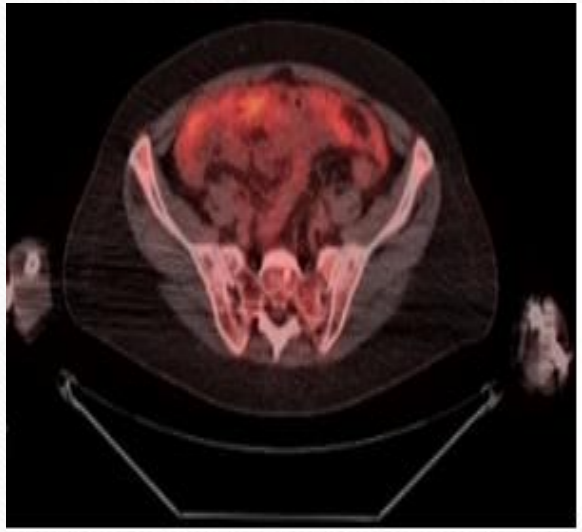
- PET-CT revealed left lower lung hypermetabolic mass, hypermetabolic mass of the liver, and mediastinal lymphadenopathy
- Lung and liver biopsies positive for TTF-1 and cytokeratin 7; negative for CD45 and SOX-10 consistent with adenocarcinoma of the lung. Tumor proportion score was 0% and EGFR exon 19 deletion was found on next-generation sequencing.

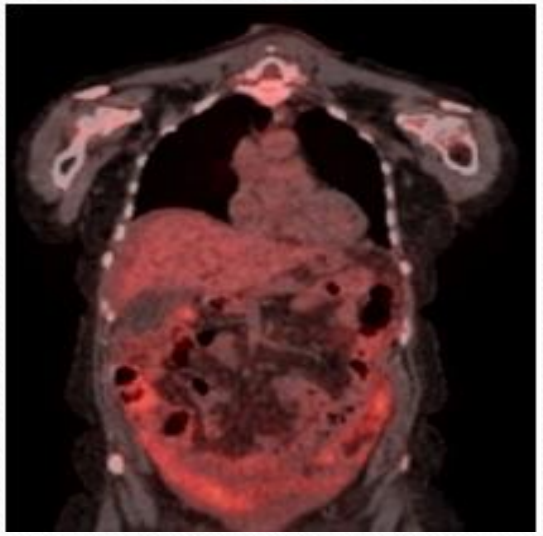
Treatment and Clinical Course

- She was started on osimertinib, and scans at 4 months showed decrease in liver lesions.
- Repeat imaging at 8 months showed omental carcinomatosis and ascites.
- CT guided omental biopsy revealed adenocarcinoma of the lung with EGFR C797S mutation.
- Erlotinib was started, and repeat imaging in 6 months showed near complete response with no lesions in the chest or abdomen.

Images







Follow up and Discussion

- Our patient is doing well and continues to follow up. She has maintained radiologic remission for 10 months.
- Limited data are available regarding adenocarcinoma of the lung with EGFR C797S mutation, some response to first-generation EGFR TKIs has been reported.
- It is important to consider development of EGFR mutations in patients with unexpected progression of NSCLC on third generation EGFR TKIs.