CASE STUDY: +EGFR NSCLC

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Case Study

- 63yo female with no tobacco hx, presents to ER with R hemiplegia.

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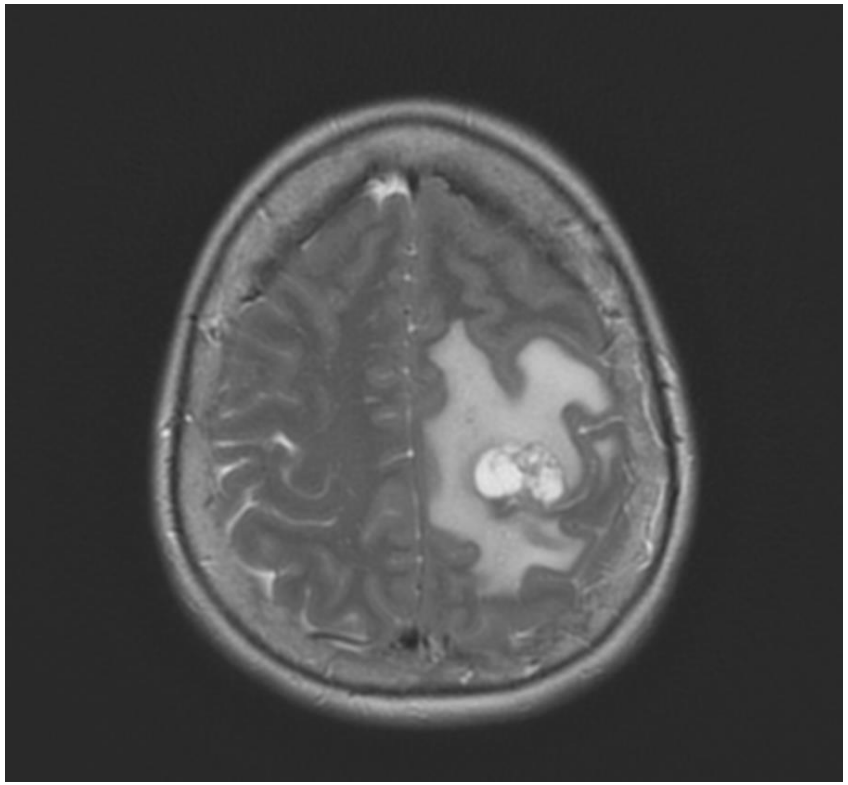

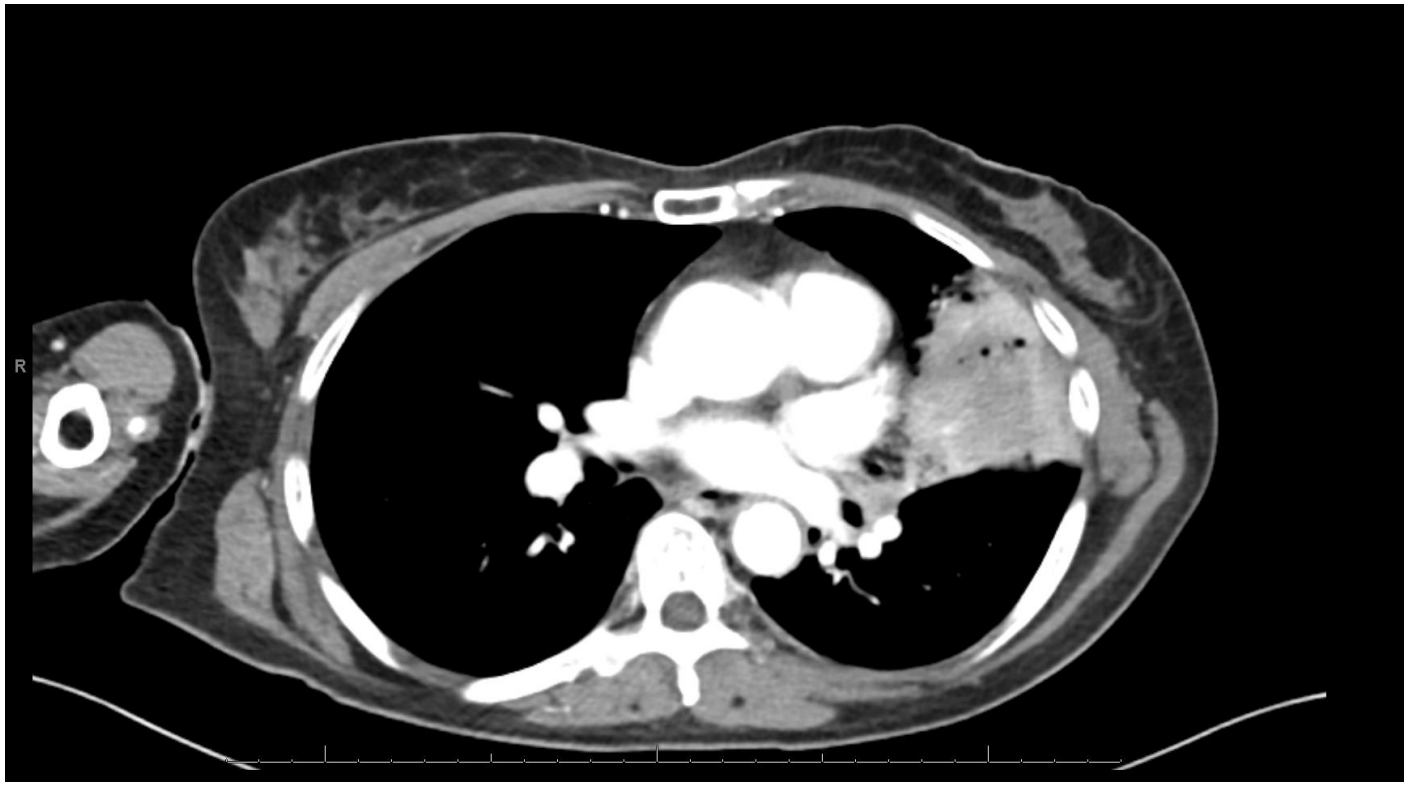

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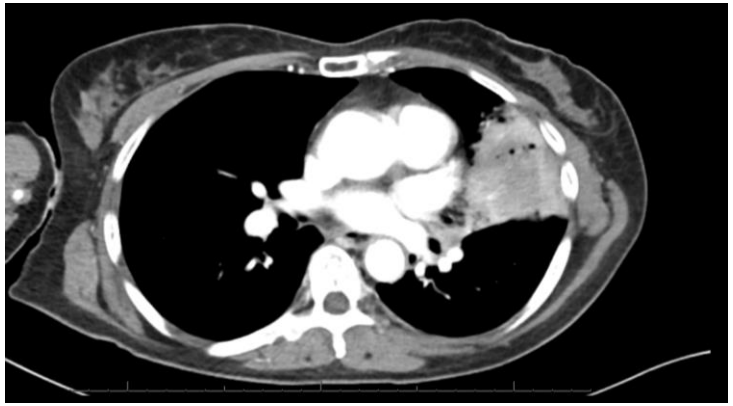
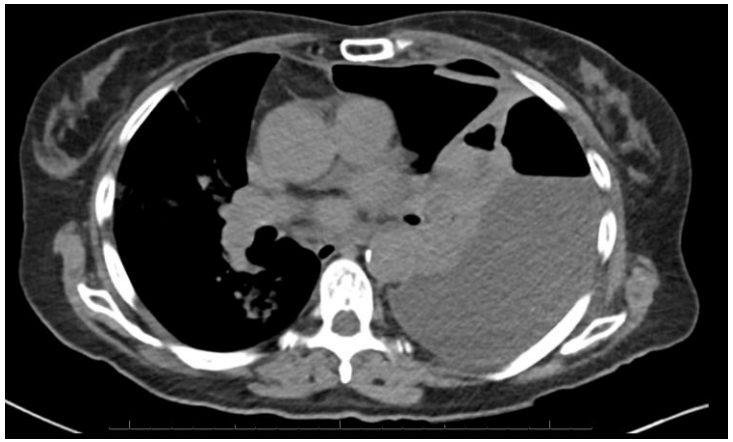


baseline



5/22/22

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- 5/3/22 EBUS +pathology: adenocarcinoma, PDL1 60%
  - 5/24/22 biomarkers ready! +EGFR exon 18 (G719C) and exon 20 (S768I)
- 5/22/22 CT chest showed spontaneous new L chylothorax
- 5/26/22 s/p LUL wedge resection and pleurodesis.

EGFR (PCR): Positive in exon 18 for mutation, p.G719C; and in exon 20 for mutation, p.S768I.
Please see comment.

Nucleotide Change: c.2155G>T, c.2303G>T
Amino Acid Change: p.G719C, p.S768I

Comment: A missense mutation, p.G719C, was detected within exon 18 of the EGFR gene. This mutation is correlated with responsiveness to EGFR tyrosine kinase inhibitor therapies.
In vitro studies show that cells expressing EGFR S768I have sustained tyrosine phosphorylation in response to EGF stimulation and reduced ubiquitination in comparison to wild-type receptor.

Labcorp/ Integrated Oncology Ref #: MEG22-000539

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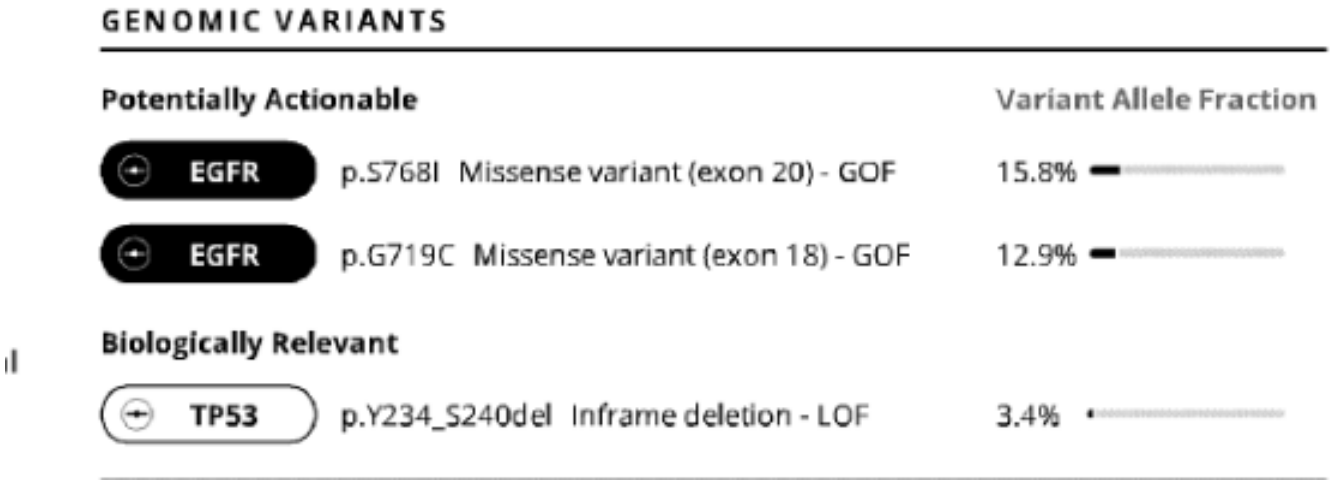
Sample also sent off to TEMPUS

Biomarkers: PDL-1 60%. EGFR exon 18 and 20.



Case Study

- 6/10/22 Osimertinib started for
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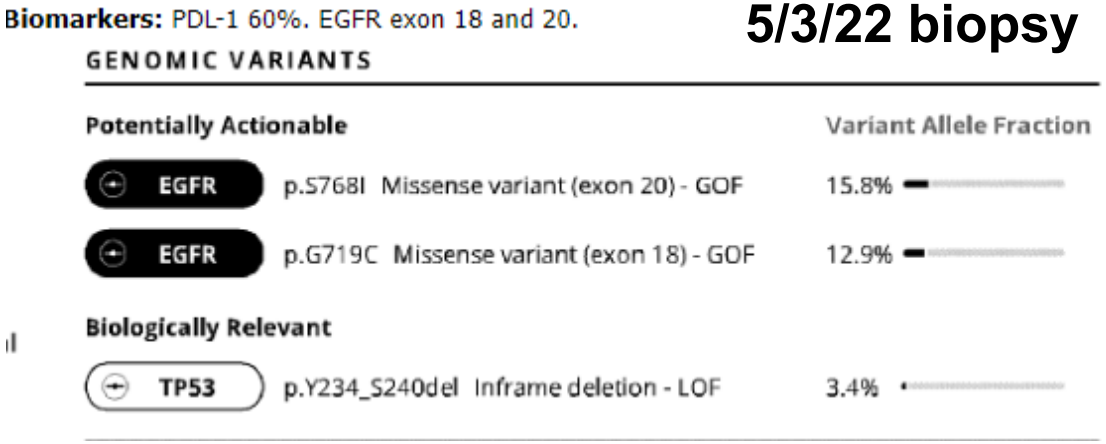
Biomarkers: PDL-1 60%. EGFR exon 18 and 20.

5/3/22 biopsy



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- 6/21/22 s/p GK #1 to CNS met
- 3/30/23 s/p GK #2 to new L posterior temporal CNS lesion
- 1/10/24 s/p GK #3 to L frontal lesion

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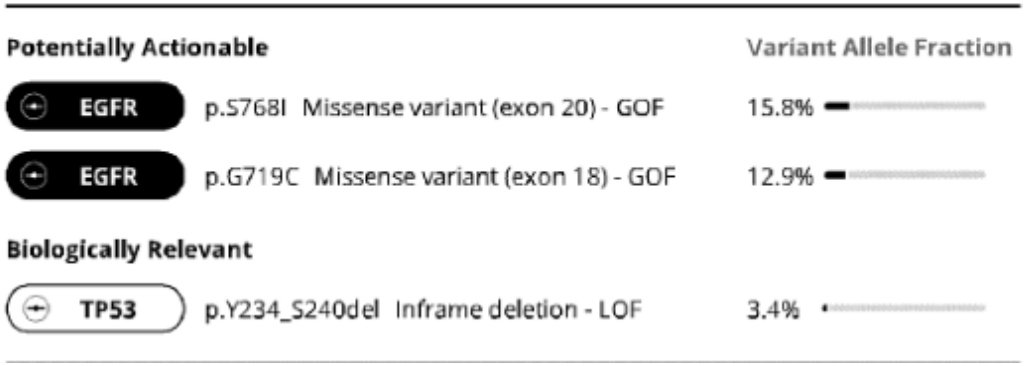

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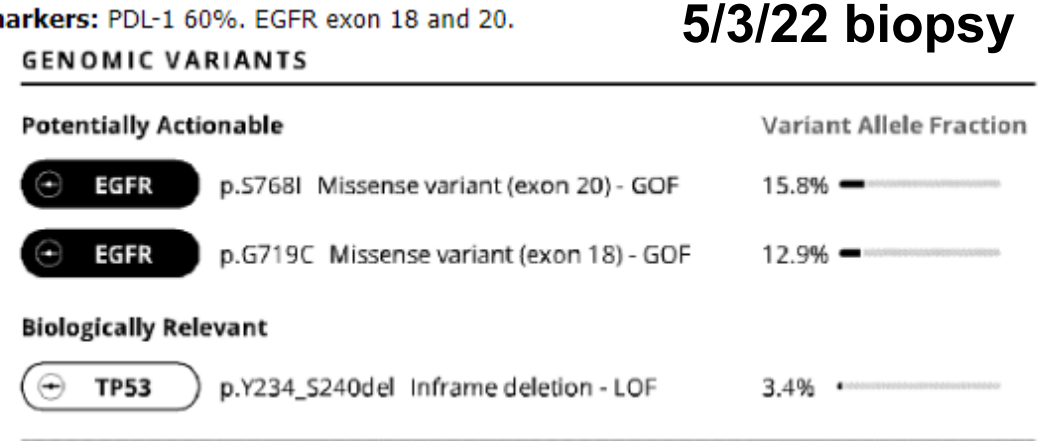

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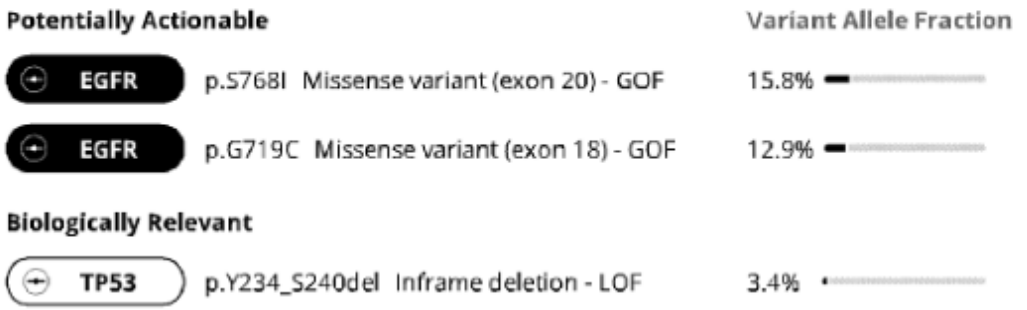
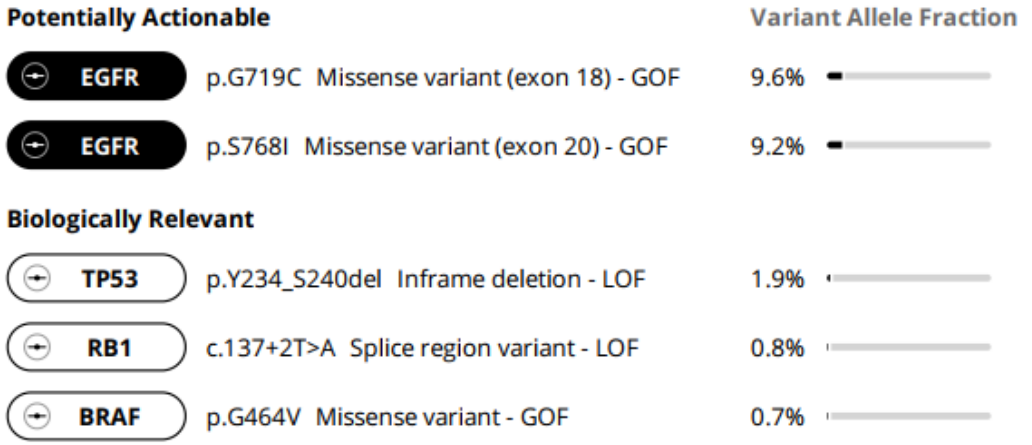


2/2/24 ctDNA



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5/3/22 biopsy

GENOMIC VARIANTS

Potentially Actionable			Variant Allele Fraction
EGFR	p.S768I	Missense variant (exon 20) - GOF	15.8%
EGFR	p.G719C	Missense variant (exon 18) - GOF	12.9%
Biologically Relevant			
TP53	p.Y234_S240del	Inframe deletion - LOF	3.4%

2/2/24 ctDNA

GENOMIC VARIANTS

Potentially Actionable			Variant Allele Fraction
EGFR	p.G719C	Missense variant (exon 18) - GOF	9.6%
EGFR	p.S768I	Missense variant (exon 20) - GOF	9.2%
Biologically Relevant			
TP53	p.Y234_S240del	Inframe deletion - LOF	1.9%
RB1	c.137+2T>A	Splice region variant - LOF	0.8%
BRAF	p.G464V	Missense variant - GOF	0.7%

Questions:

1. Retrospectively, any changes to first line treatment recommendations?

2. What would you recommend now for 2nd and 3rd line treatments?

THANK YOU!

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