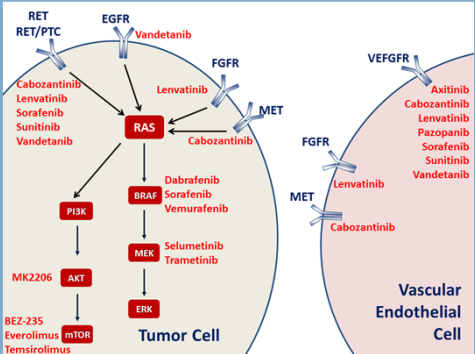


THE UNIVERSITY OF TEXAS  
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## Treatment for Progressive Thyroid Carcinoma

Steven I. Sherman, M.D.

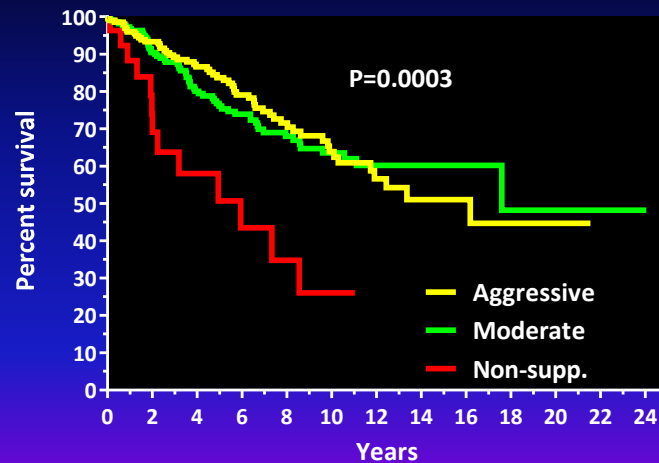


## Definitions of “radioiodide refractory”

Strength of Evidence

- Lesions that are not RAI avid on nuclear imaging
- Lesions that do not shrink or are growing within 6-12 months of RAI treatment despite uptake
  - Issues of lesion dosimetry
- Cumulative treatment with  $\geq 600$  mCi
- Lesions that are  $^{14}\text{F}$ DG avid on PET imaging
- Others?

## TSH suppression & distant metastases



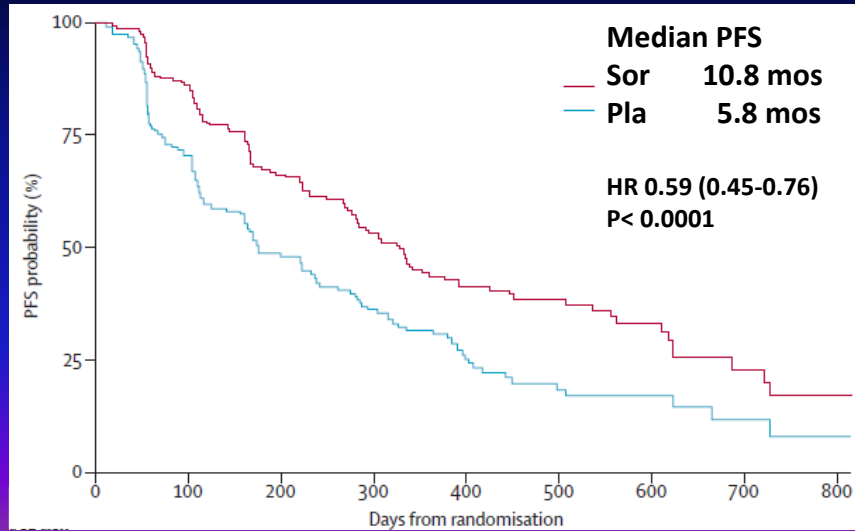
\* RR (Mod v. Non-suppressed)=0.34, 95%CI (0.19-0.65), p=0.0018

Carhill *et al.*, ATA 2014

## Questions about “targeted” therapies for thyroid cancer

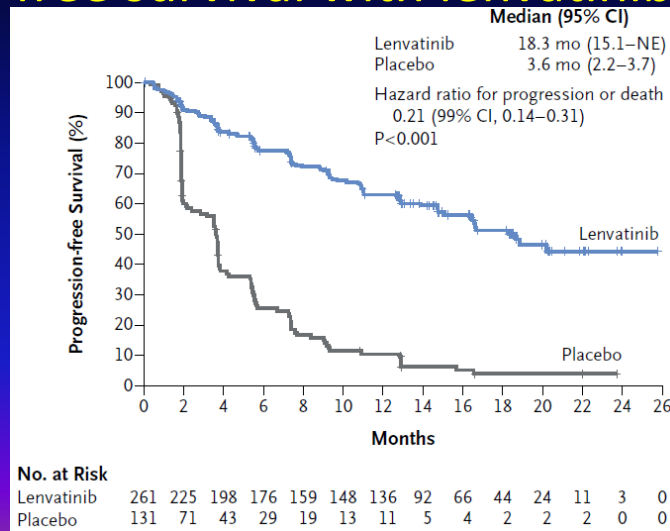
- What relevant receptors are they targeting?
  - Oncogenic: RET, RET/PTC, others?
  - Angiogenic: VEGFR, FGFR, MET, others?
- What cells are being targeted?
  - Tumor
  - Stroma
- Are more selectively targeted therapies of value?

## DTC DECISION phase III: Progression-free survival with sorafenib



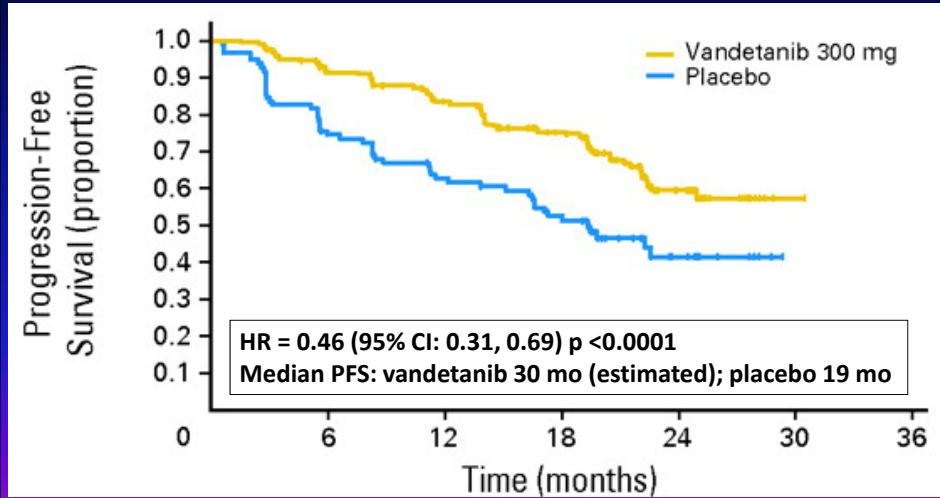
Brose, et al., *Lancet Oncol* 2014

## DTC SELECT phase III: Progression-free survival with lenvatinib



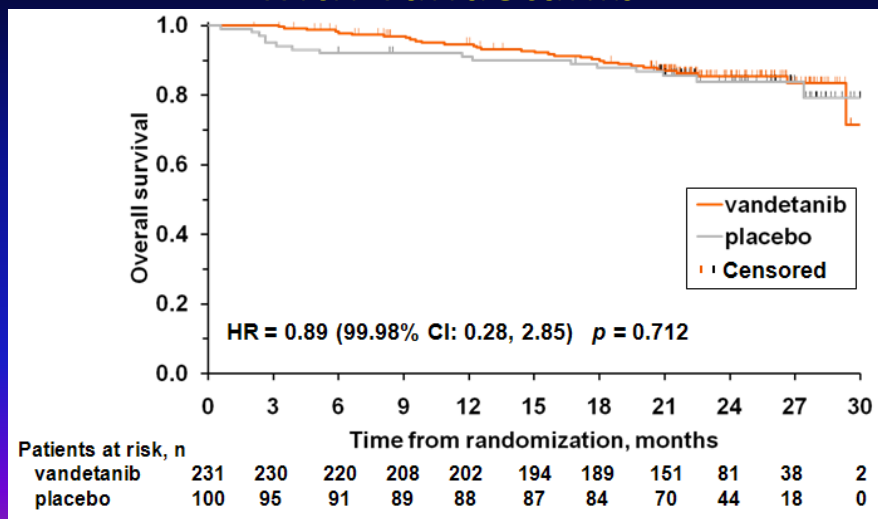
Schlumberger, et al., *N Engl J Med* 2015

## MTC ZETA phase III: Progression-free survival with vandetanib



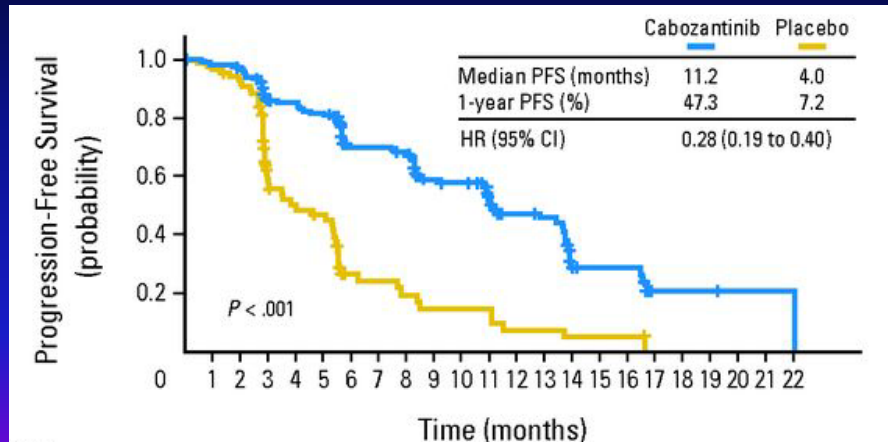
Wells, et al. J Clin Oncol, 2012

## MTC ZETA phase III: Overall survival with vandetanib



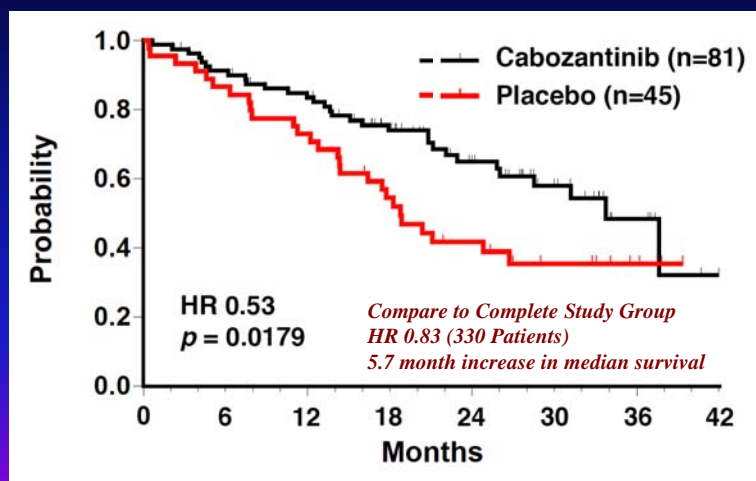
Gagel, ODAC Hearing, 2010

## MTC EXAM phase III: Progression-free survival with cabozantinib



Elisei, et al., J Clin Oncol 2013

## MTC EXAM phase III: Overall survival with cabozantinib – RET 918



[http://www.ema.europa.eu/docs/en\\_GB/document\\_library/EPAR\\_-\\_Product\\_Information/human/002640/WC500163703.pdf](http://www.ema.europa.eu/docs/en_GB/document_library/EPAR_-_Product_Information/human/002640/WC500163703.pdf)

## Cabozantinib: Final OS results

	<u>Median OS:</u>	<u>Entire Cohort</u>	<u>RET M918T</u>
• Cabozantinib		26.6 mos	
• Placebo		21.1 mos	ASCO!
• Hazard ratio:		0.85	
• 95% CI		0.64-1.12	

<http://www.exelixis.com/investors-media/press-releases>