

Using the combined 70- and 80-gene signatures on core needle biopsy to guide neoadjuvant chemotherapy recommendations for invasive breast cancer in a Black population: Can we identify those who benefit most at time of diagnosis? Using the combined 70- and 80-gene signatures on core needle biopsy to guide neoadjuvant chemotherapy recommendations for invasive breast cancer in a Black population: Can we identify those who benefit most at time of diagnosis?

	Background	
•	Studies in genomic testing in Black patients can lead to improved outcomes and reduced disparity.	
	Objectives	
•	To examine how MammaPrint (MP) and BluePrint (BP) results affected treatment decisions (Neoadjuvant chemotherapy (NAC) vs surgery first) and tumor response in a Black patient population.	N Age (mean) BluePrint Luminal A Luminal B HER2 Basal
	Methods	Treatment Plan Surgery first
	A retrospective chart review was performed on all cases of invasive breast cancer at a single institution from 2021-2023 that had MammaPrint and Blueprint sent on core needle biopsy (CNB). Descriptive statistics identified treatment differences between the MP and BP subgroups.	NAC *Patients that had NA N Breast &/or Axillary Da Yes No PCR Yes No Key: MI=MammaPrint
	subgroups.	

Cristina Solis-Pomales MD, Amy Jeng MD, Kseniya Roudakova MD, Sherene Sharath PhD, Jaime Alberty MD FACS SUNY Downstate Health Science University, Kings County Hospital

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		10(52.6%) 9(47.4%)	0	0	2	8	0.038*



Results

- Out of a total 85 Black patients, 57 underwent surgery first and 28 received NAC.
- 25/28 (89.2%) were genomically MP high risk whereas 3/28 (10.8%) were genomically MP low risk (p<0.001). Most patients that received NAC first were MP High2 in the Index score (14/28, 50%, p<0.001). Most patients that received surgery first were MP Low or UltraLow. 16/19 (84%) of patients that had NAC and definitive surgery had pathologic downstaging (p=0.086). 10/19 (52.6%) achieved complete pathological response. 8 of these patients were MP High2 (p=0.038) and 6 of these were Basal.

Conclusion

Black patients with genomically high risk tumors, defined by MP and BP on CNB, were more frequently recommended for NAC and subsequently downstaged and/or achieved complete response. MP/BP can be an important tool in the treatment planning of Black patients.