

Evaluating the impact of excluding the race factor from the eGFR equation on bladder cancer treatment options.

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Introduction

- The estimated glomerular filtration rate (eGFR) equation is based on several factors among which the race factor has been broadly criticized. In September 2021, the National Kidney Foundation and American Society of Nephrology Task Force announced a new race-free calculation for eGFR.
- Aspects of treatment decisions for muscle-invasive bladder cancer (MIBC) are dependent on eGFR, specifically neoadjuvant cisplatin eligibility and choice of diversion with cystectomy.

Aim

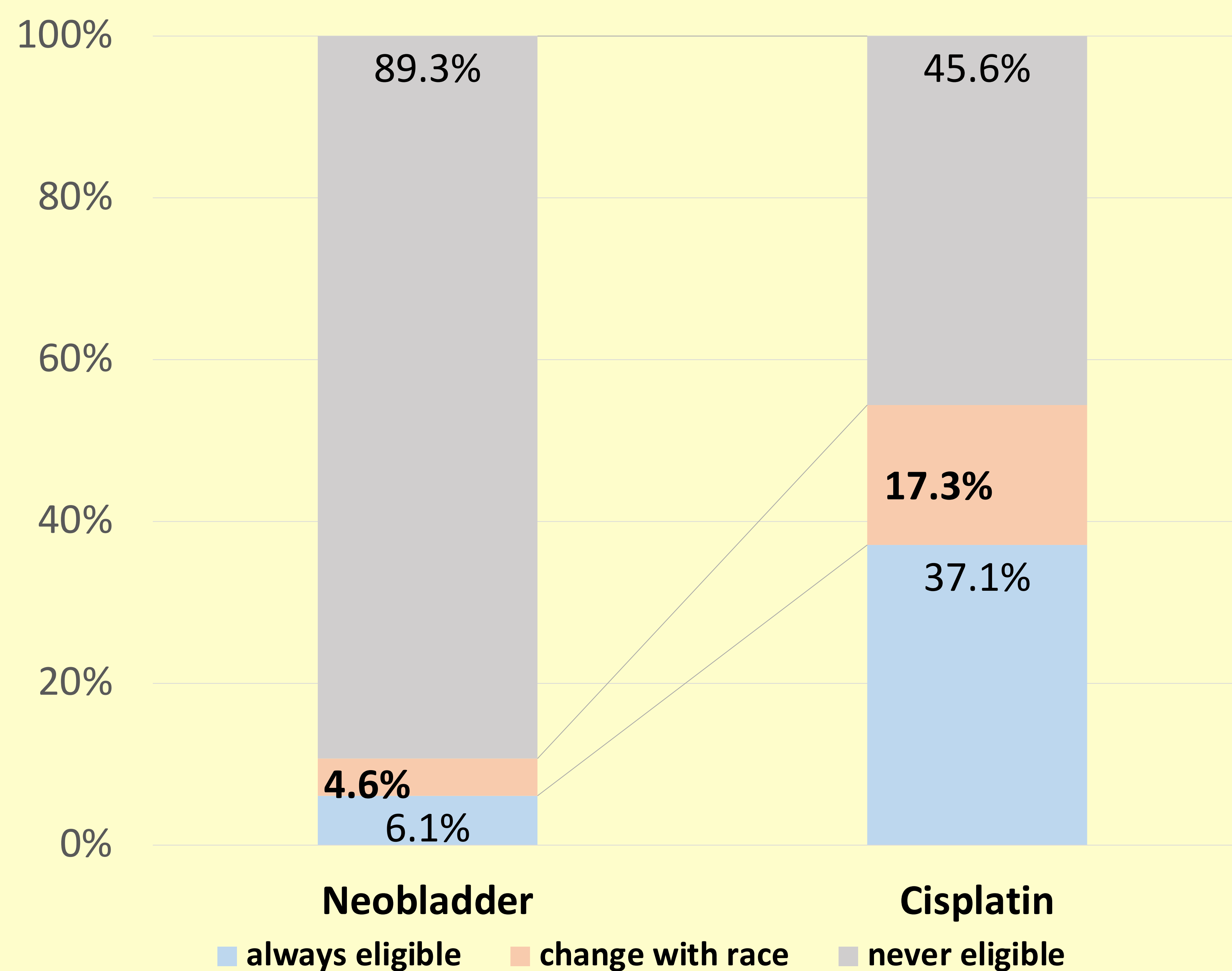
This study aims to evaluate the impact of removal of race-based eGFR calculation on the management of patients with MIBC.

Methods

- We retrospectively reviewed adult patients (>18years) diagnosed with MIBC and who received radical cystectomy from 2005 to 2020 using NSQIP database.
- We calculated the proportion of Black patients who were candidates for neobladder urinary diversions and cisplatin-based chemotherapy using >30 and >60 ml/min/1.73m² as the cutoff for eGFR, respectively, as calculated with and without the race factor using the MDRD equation (shown below).

$$eGFR = 175 \times (SCr)^{-1.154} \times (age)^{-2.03} \times 0.742 \text{ (If Female)} \times 1.212 \text{ (If Black)}$$

Categories of Black patients at 30 & 60 ml/min/1.73m² eGFR with and without race factor



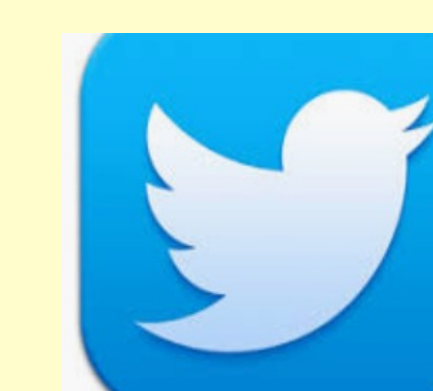
Baseline Characteristics	Black Patients
Age (years), mean ± SD	65.7 ± 10.6
Sex	
Male, % (n)	59.7% (497)
Female, % (n)	40.3% (335)
eGFR, (ml/min/1.73m ²)	
eGFR with race, mean ± SD	70.7 ± 28.8
eGFR without race, mean ± SD	58.3 ± 23.7
BMI kg/m ² , mean ± SD	28.4 ± 6.5
Pre-op creatinine, mean ± SD	1.4 ± 1.03
Pre-op Probability of morbidity, mean ± SD	0.27 ± 0.09

Results

- Black patients constituted 4.7% (n=832) of the total population (n=17,785) among which 40.3% (n=335) were female and 59.7% (n=497) were male.
- There was statistically insignificant (p=0.123) association of eGFR with gender.
- Using the MDRD equation, the mean eGFR decreased from 70.7 to 58.3 ml/min/1.73m² after removing the race factor.
- With the adjusted eGFR without race, **17.3% fewer patients (62.9% vs 45.6%) were eligible for cisplatin-based chemotherapy with a >30 ml/min/1.73m² eGFR cutoff.**
- Similarly, among patients who were previously eligible to receive neobladder urinary diversion, **4.6% fewer patients (93.9% vs 89.4%) would remain eligible with a >=60 ml/min/1.73m² eGFR cut off.**

Conclusions

- Excluding race from the eGFR equation **will preclude some previously eligible** Black patients for certain treatments such as **Neobladder urinary diversion** and **Cisplatin based chemotherapy** for muscle invasive bladder cancer management.
- Further studies are needed to understand the **relative risks and benefits of decisions** that are based on the adjusted eGFR.



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