Assessment of QRISK®3 and Major Cardiovascular Events in Patients with Metastatic Hormone-Sensitive Prostate Cancer Treated with ADT ± ARPI ± Docetaxel: A Retrospective Cohort Study

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BACKGROUND

Cardiovascular disease is a major cause of morbidity in men with metastatic hormone-sensitive prostate cancer (mHSPC) receiving ADT-based treatment. Cardiovascular risk assessment is increasingly recommended before treatment yet rarely integrated into routine decision-making.

OBJECTIVE

To evaluate baseline cardiovascular risk using QRISK®3 in patients receiving ADT-based treatment for mHSPC, and its association with major adverse cardiovascular events (MACE).

METHODS

- 206 patients with mHSPC treated with ADT ± ARPI ± docetaxel at Portsmouth Hospitals University NHS Trust, 2009–2023.
- Baseline QRISK®3 calculated from demographic, clinical and cardiovascular variables.
- Primary endpoints: baseline QRISK®3 distribution; MACE incidence by risk category.
- Secondary endpoints: clinical characteristics by risk group; GnRH agonist vs antagonist prescribing by risk; MACE within 36 months.

RESULTS

54.9%
of patients classified high cardiovascular risk (QRISK®3)

3.45x
adjusted risk of MACE in high- vs lower-risk patients

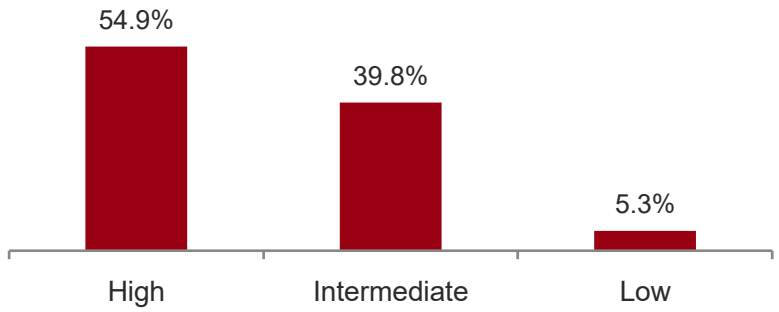
45.1%
of high-risk patients were receiving statin therapy

p = 0.588
no association between QRISK®3 and GnRH agent choice

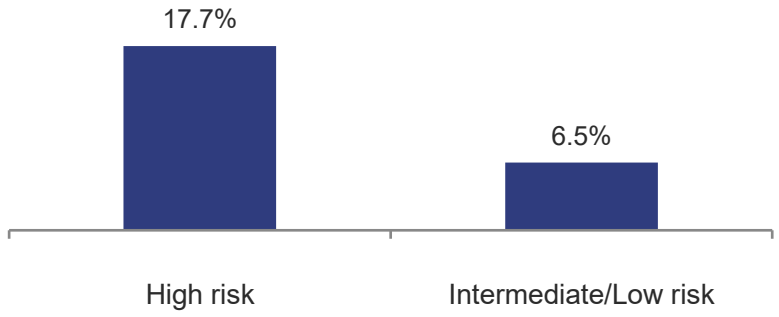
High QRISK®3 patients had significantly more MACE than intermediate/low-risk patients (17.7% vs 6.5%; OR 3.12, 95% CI 1.20–8.14; p=0.020), confirmed at 36-month landmark analysis (22.0% vs 6.8%; p=0.008) and in multivariable Cox regression (adjusted HR 3.45, 95% CI 1.33–9.09; p=0.011).

Despite this, cardiovascular risk had limited influence on management: statin use remained low among high-risk patients, and ADT agent selection (agonist vs antagonist) did not differ by QRISK®3 category.

BASELINE QRISK®3 DISTRIBUTION (N=206)



MACE INCIDENCE BY RISK GROUP



Adjusted HR 3.45 (95% CI 1.33–9.09), p=0.011

CONCLUSIONS

- More than half of patients starting ADT for mHSPC are high cardiovascular risk, which independently predicts MACE, yet this risk rarely changes clinical management (statin use and ADT agent choice).
- These findings support routine QRISK®3 stratification before ADT initiation; prospective, multicentre validation is needed.