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PSMA PET/CT Stage Migration and Genomic Classifier Scores in High-Risk Prostate Cancer

First-Year Results from the Thunder trial (NCT06282588)

The Thunder trial is supported by Bayer and Veracyte



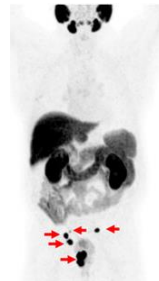
Multicenter Thunder phase 2/3 study

High-risk PCa cM0

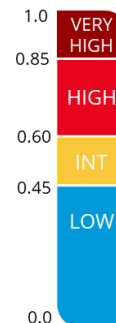
PSA > 20 ng/ml
OR T-stage ≥ 3
OR Gleason
score ≥ 8 OR cN1

N = 493

Screening
PSMA PET/CT
Decipher GC

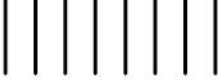


ProPSMA trial: 14% upstaging,
with 5% upstaging from M0 to M1



Can we use these tools to
improve personalized treatment
decisions and patient outcome?

22-gene test based on biopsy material
Prognostic for development of DM
Very high (>0.85), 10-year risk 42%

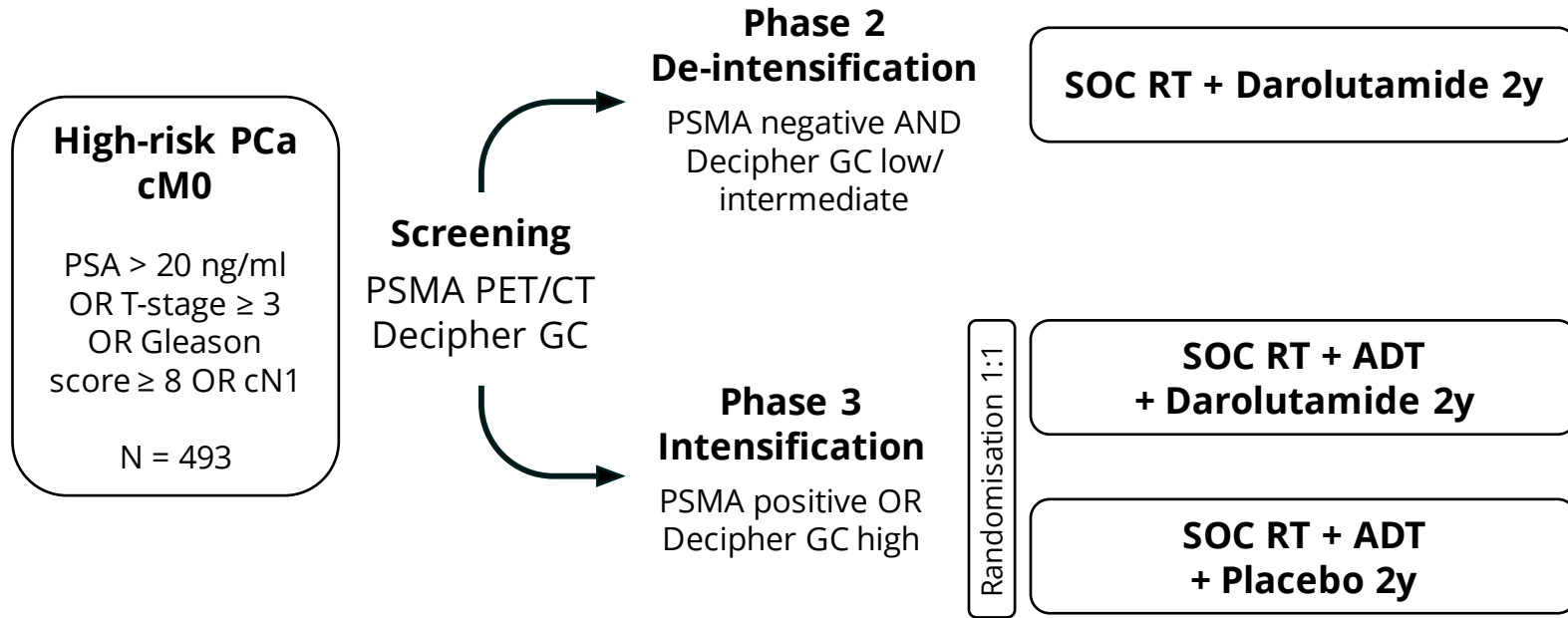


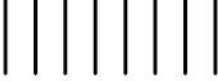
Multicenter Thunder phase 2/3 study

Objectives:

Quality of Life

PSMA PET
metastasis
free survival





Study aim

Baseline data of patients included in the first year of the THUNDER trial



1. Assess stage migration on PSMA PET/CT compared to conventional imaging



2. Assess the correlation between Decipher Genomic Classifier scores and PSMA PET/CT findings



Methods

Informed consent between 13-12-2023 and 12-12-2024
11 participating Belgian centres



Within 16w prior to screening:

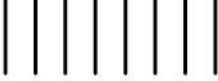
- Contrast-enhanced CT
- Bone scintigraphy
- PSMA PET/CT

**TNM classification
PROMISE V2 (miTNM)**



Decipher Genomic Classifier
scores were provided by
Veracyte

**Decipher Genomic
Classifier score**



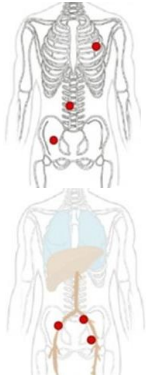
Patient characteristics

N = 142

Very high-risk population

Characteristic	Value		proPSMA:
Age in years, median (IQR)	75	(69 – 78)	69
PSA in ng/ml, median (IQR)	14.3	(8.0 – 32.7)	10.2
PSA > 20 ng/ml, n (%)	54	(38%)	22%
T-stage ≥ 3 , n (%)	87	(61%)	27%
Gleason score ≥ 8 , n (%)	104	(73%)	64%
cN1-stage, n (%)	27	(19%)	9%

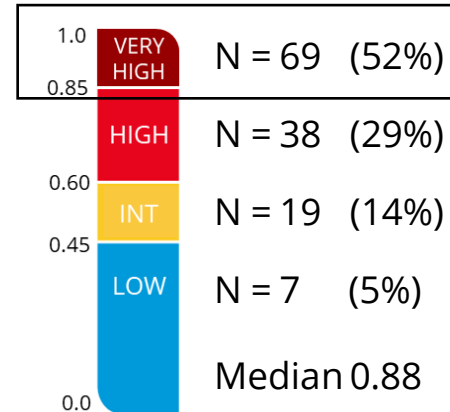
Patient characteristics



PSMA PET/CT:

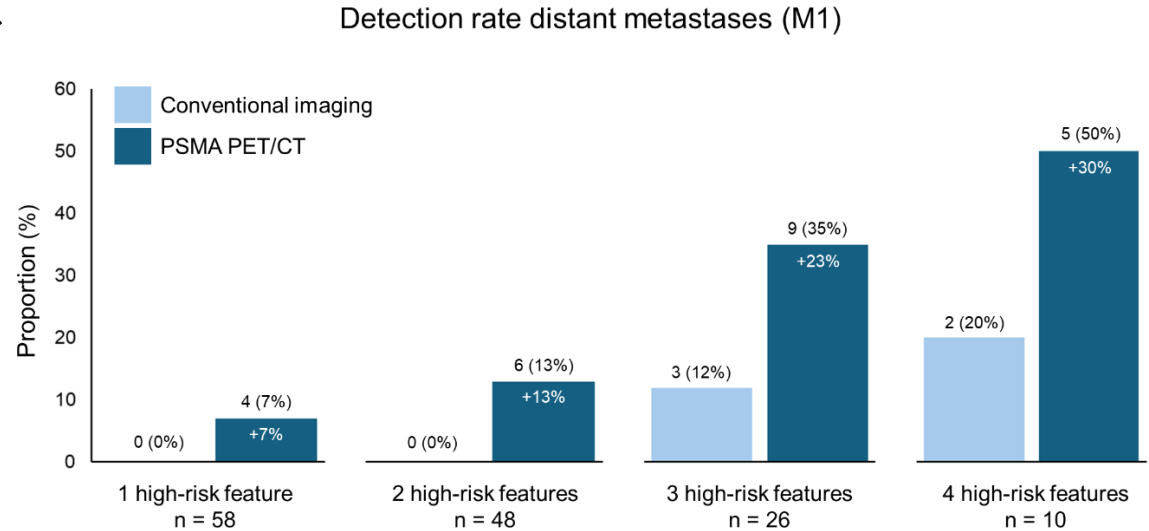
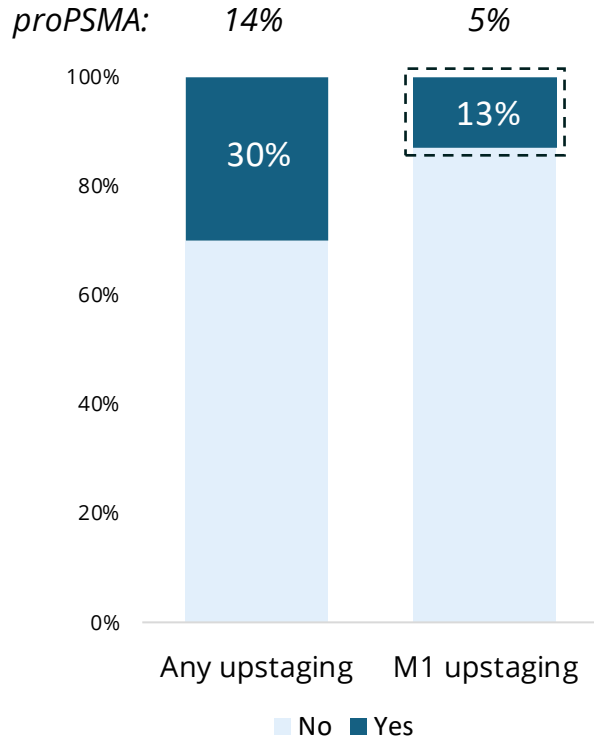
- Metastatic N = 24 (17%)
- Nodal only N = 38 (27%)
- Localised N = 80 (56%)

Decipher Genomic Classifier:





Upstaging with PSMA PET/CT

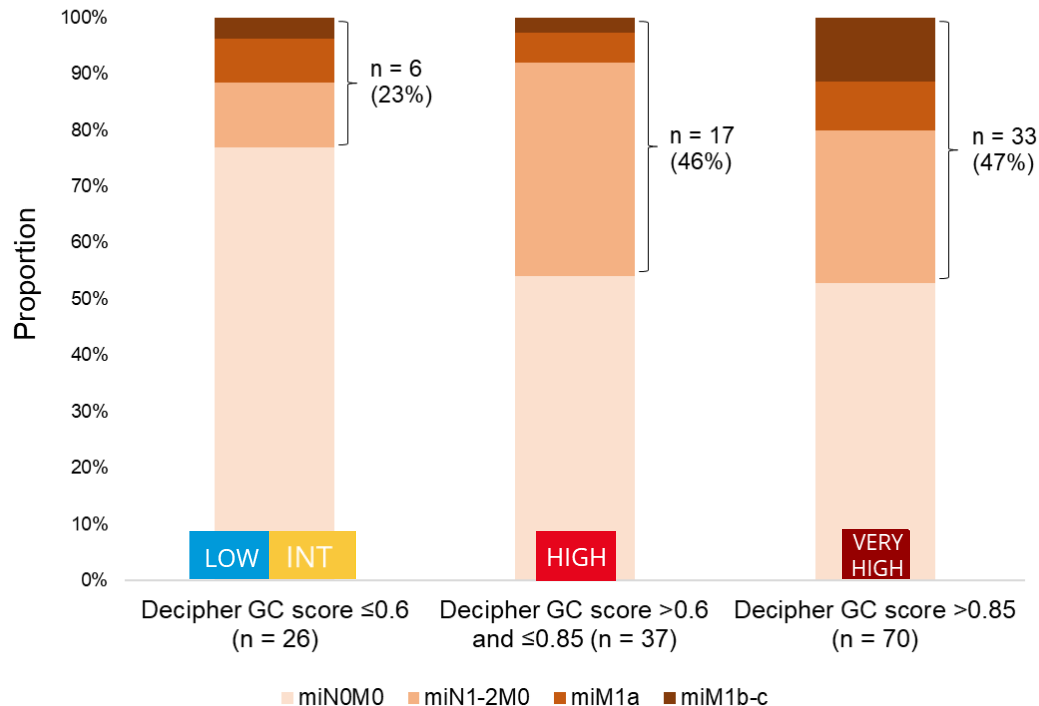


PSA > 20 ng/ml, T-stage $\geq$ 3, Gleason score $\geq$ 8, cN1



Decipher GC scores

Extraprostatic disease on PSMA PET/CT



Higher Decipher GC scores were associated with extraprostatic disease on PSMA PET/CT

Decipher (per 0.1 increase):

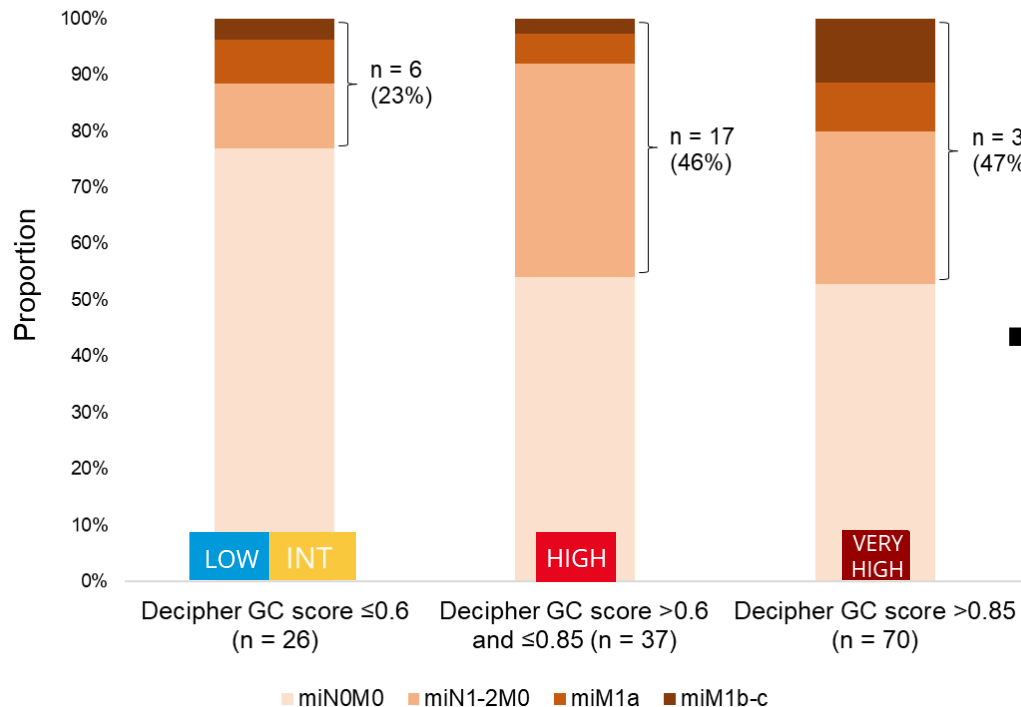
OR = 1.29 [1.05-1.58], p = 0.016

independent of PSA level and Gleason score



Decipher GC scores

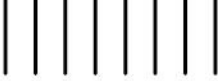
Extraprostatic disease on PSMA PET/CT



Decipher GC > 0.85
(10-year DM risk of 42%)
over half had negative PSMA PET

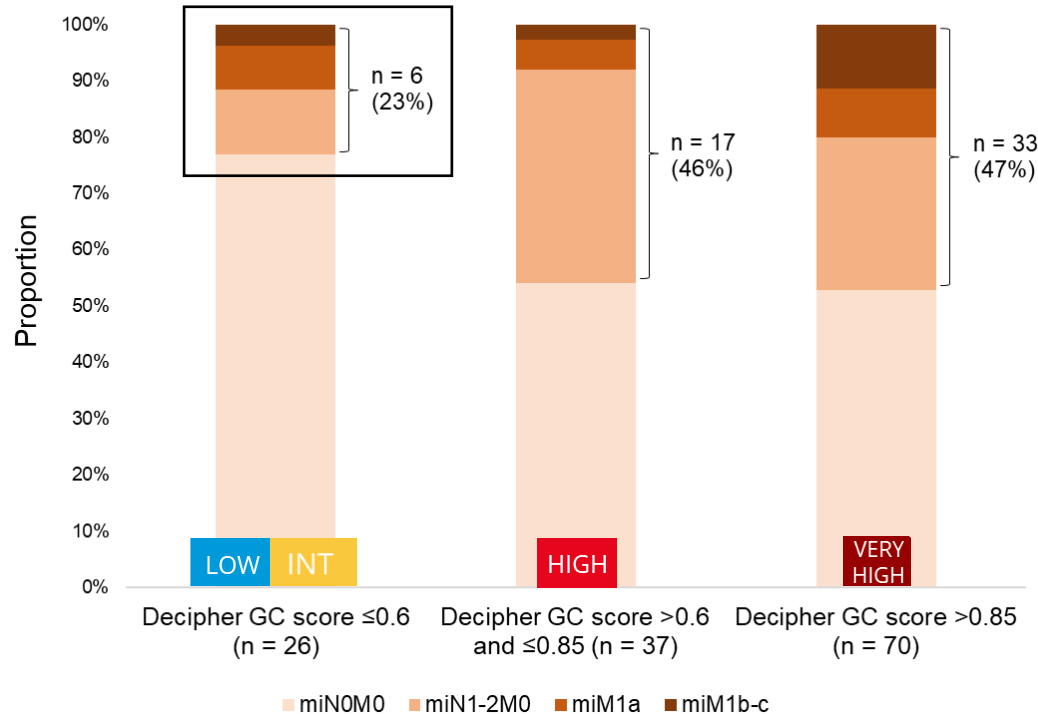


False negative (limited by PET resolution) or true negative with aggressive tumour biology?

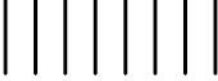


Decipher GC scores

Extraprostatic disease on PSMA PET/CT



Sampling error, GC score not representative for tumour biology?



In summary

- Very high-risk PCa cohort
- Stratification based on PSMA PET/CT and Decipher GC scores

PSMA PET/CT upstaged
one in three patients

More than double compared to proPSMA

Upstaging increased with number of
risk factors and Decipher GC score

- Specific interest in discrepant PSMA PET/CT and Decipher GC score
- The Thunder trial will assess PSMA- and GC-guided treatment adaptation strategies



Thunder clinical trial

Thank you to the Thunder team

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