PHI (Prostate Health Index)
usefulness in biopsy-naïve patients

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CONFLICT OF INTEREST DISCLOSURE

I have NO potencial conflict of interest to report

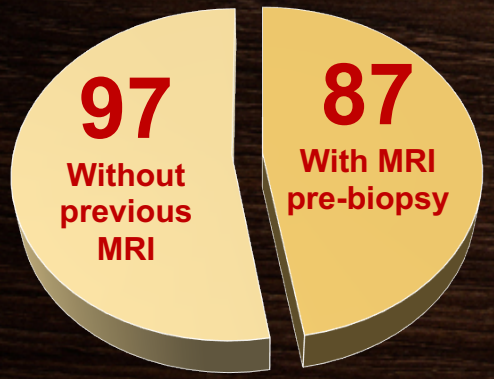
INTRODUCTION

- PHI is a formula that combines totalPSA, freePSA and -2proPSA into a single score.
- It has been validated as a predicted tool for prostate biopsy outcomes in patients with high PSA-levels.
- However, there are few prospective studies performed.

MATERIAL AND METHODS

- Prospective, observational study.
- Between September 2014 and March 2018.
- 184 biopsy-naïve patients.

Patients with clinical suspicion of PCa: PSA 4-10ng/dL and/or abnormal DRE



In both groups:
- PHI pre-biopsy
- Transrectal US-guided biopsy (cognitive fusion if previous MRI)

- **Evaluate PHI as a predictor of PCa detection**
- **Establish cut-off points for PHI**
- **Calculate the number of biopsies that could be avoided**

RESULTS

PHI: usefulness in biopsy-naïve patients
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Age (MD)	**64,6 (48-78)**
Total PSA (ng/mL)	**6,45 (3,52-9,09)**
Free PSA (ng/mL)	0,9 (IQR 0,6)
PSA density	13,08 (IQR 11,04)
-2 proPSA	13,8 % (IQR 9,31)
PHI	**41,67 (IQR 23,65)**
DRE I-II (%)	80,1 %
DRE III-IV (%)	19,9 %
Abnormal DRE	20,9 %
Prostate volume (mL)	49 (18-140)
Suspicious TRUS	15,2 %
Biopsy indication: high levels tPSA	**79,9 %**
Biopsied cores (number)	13 (8-28)
Positive biopsy	**50%**
PCa Gleason 3+3	48,9 %
PCa- Active Surveillance	19,6 %
Clinically significant PCa	51,1 %

RESULTS

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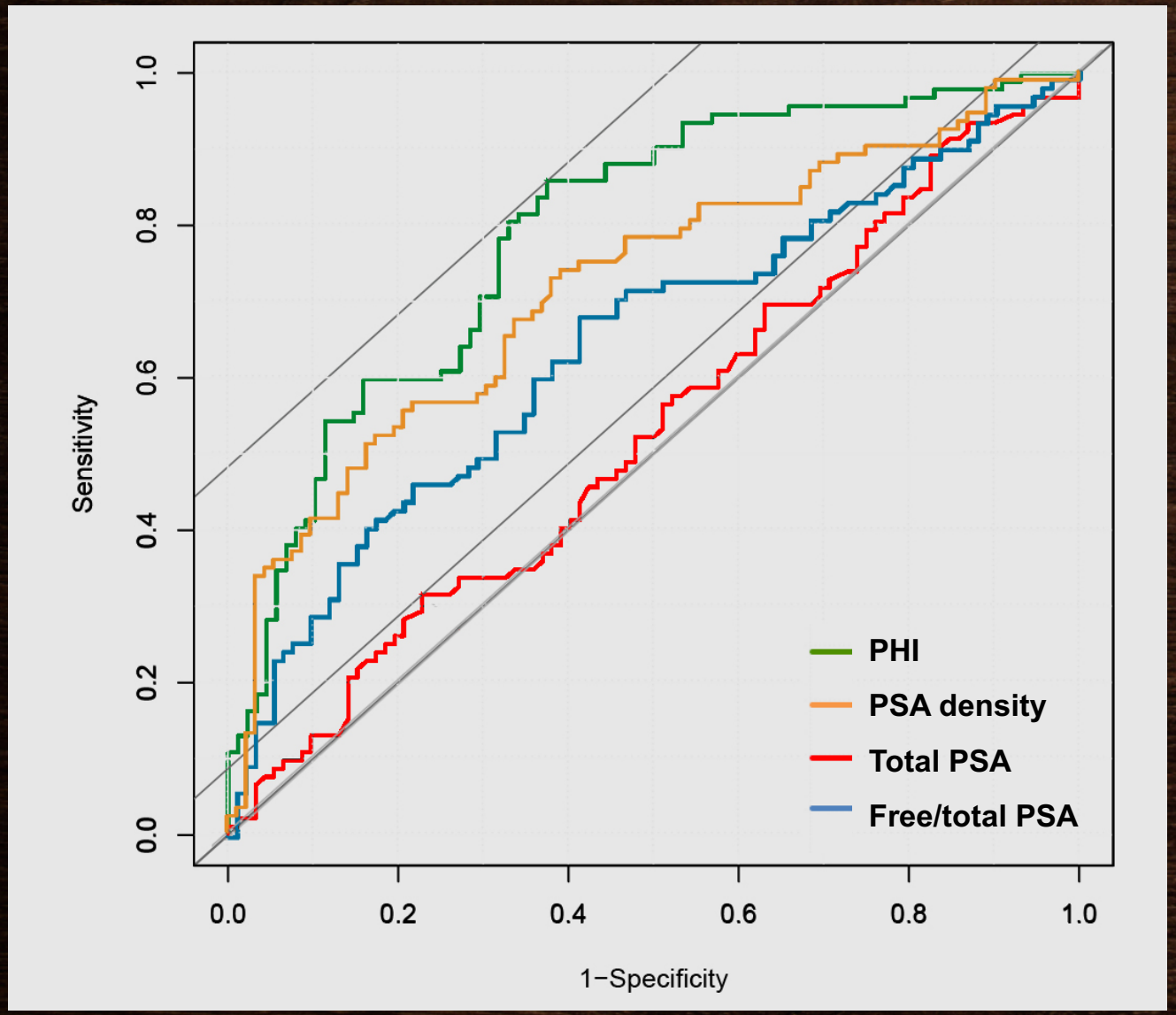
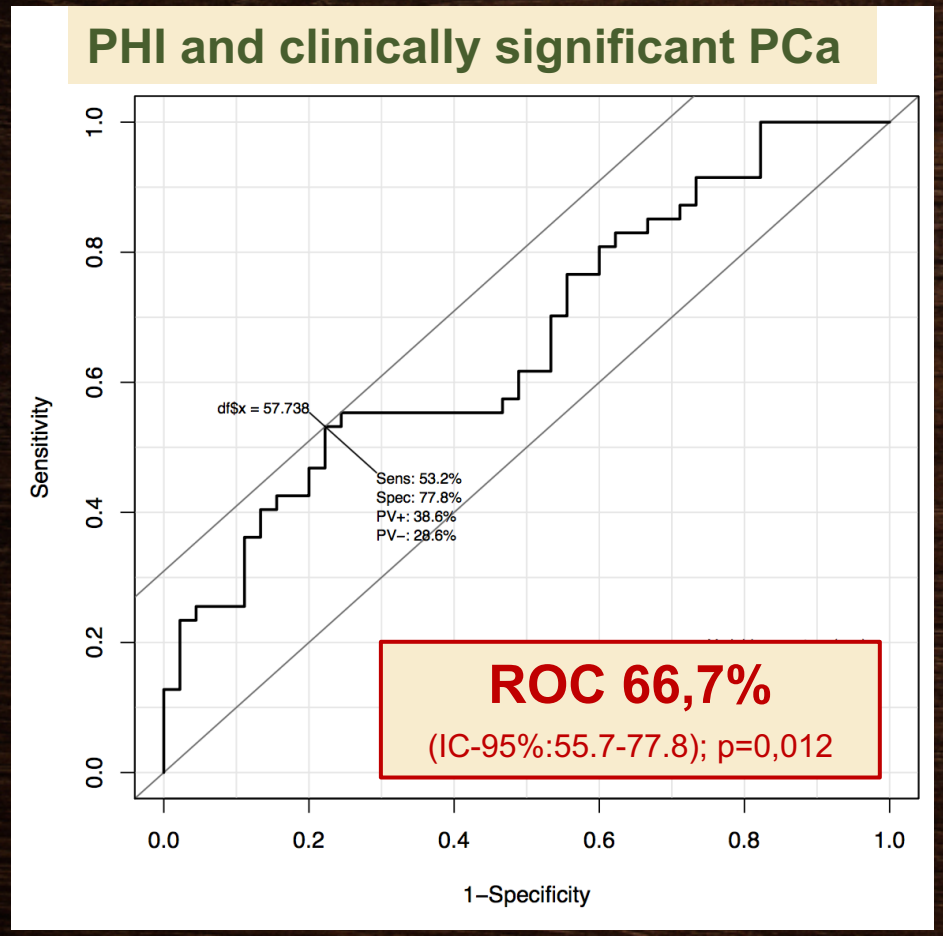


PHI	ROC 79,2 %
PSA density	ROC 71,7 %
Free/total PSA	ROC 64 %
Total PSA	ROC 52,9 %

ROC curves in predicting PCa

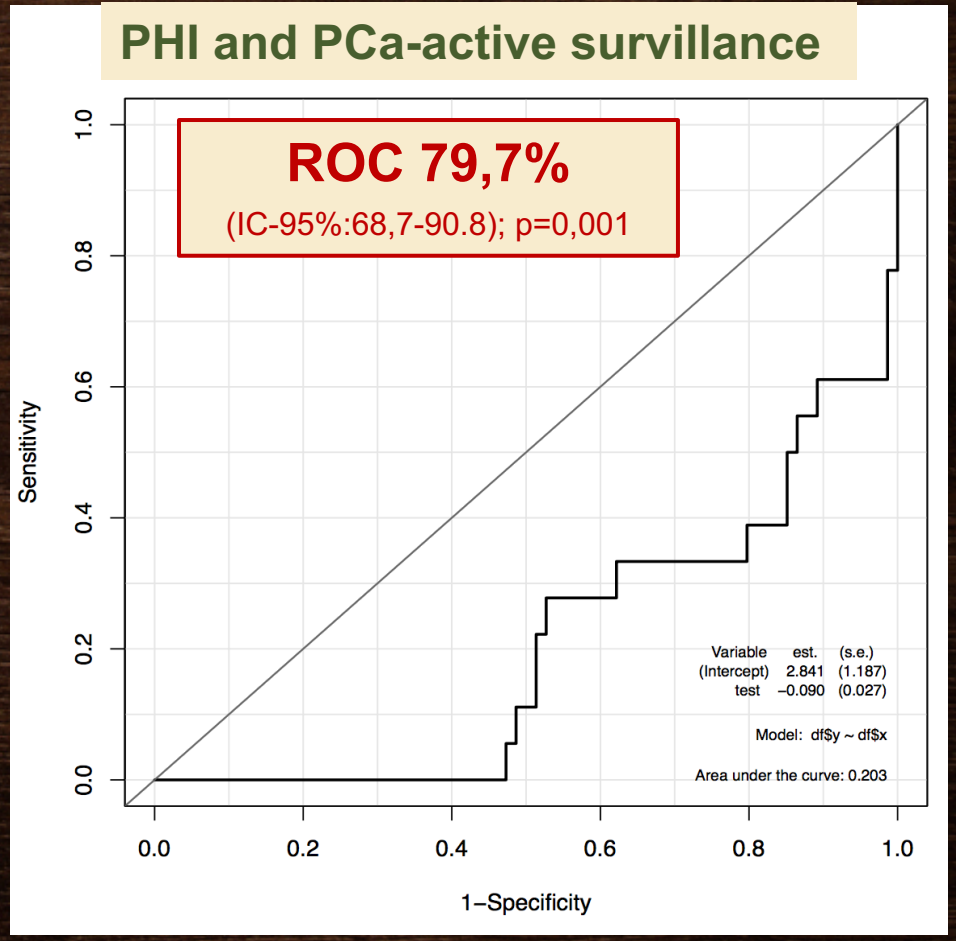
RESULTS

PHI and clinically significant PCa



ROC curve PHI in predicting PCa-clinically significant

PHI and PCa-active survillance



ROC curve PHI in predicting PCa-active survillance

RESULTS

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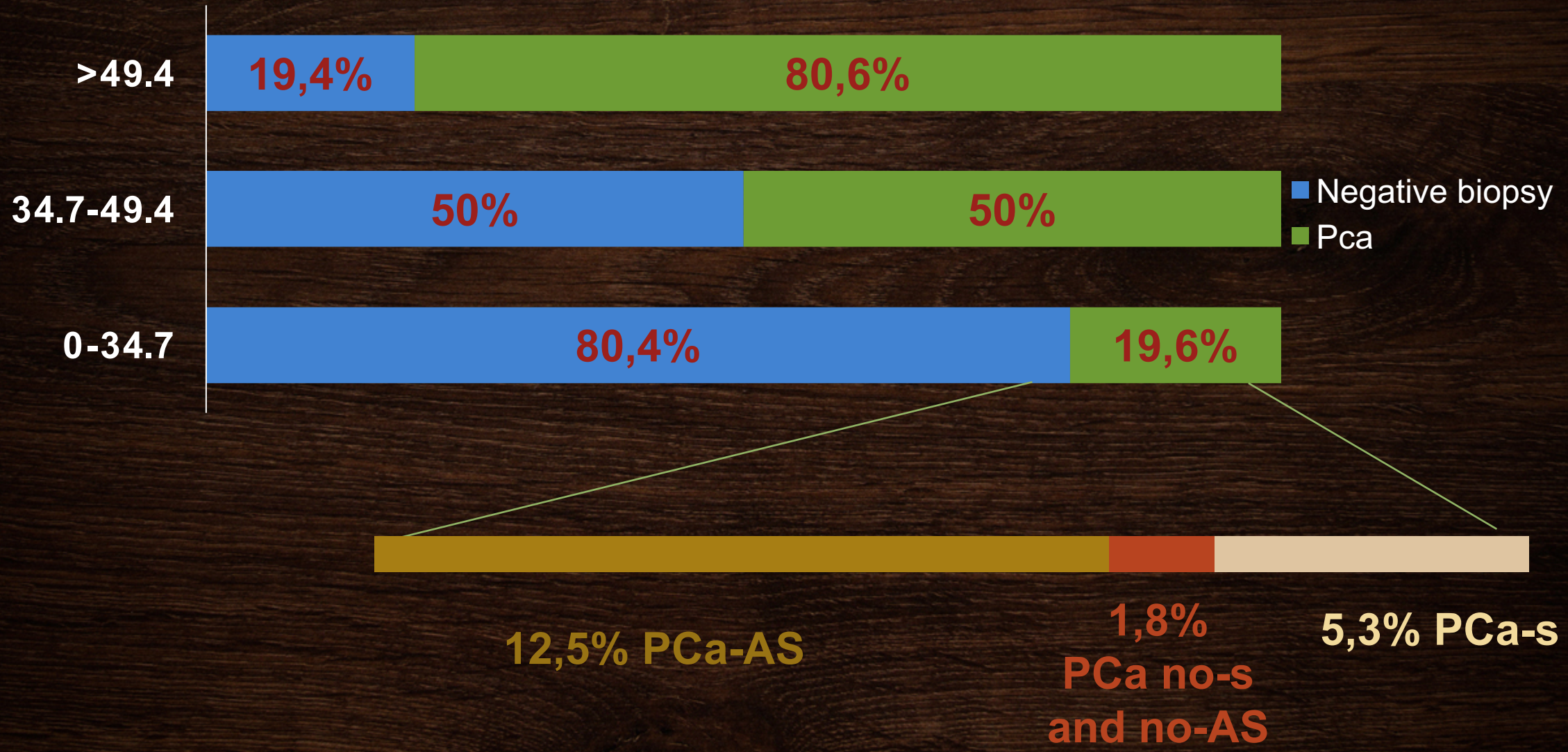


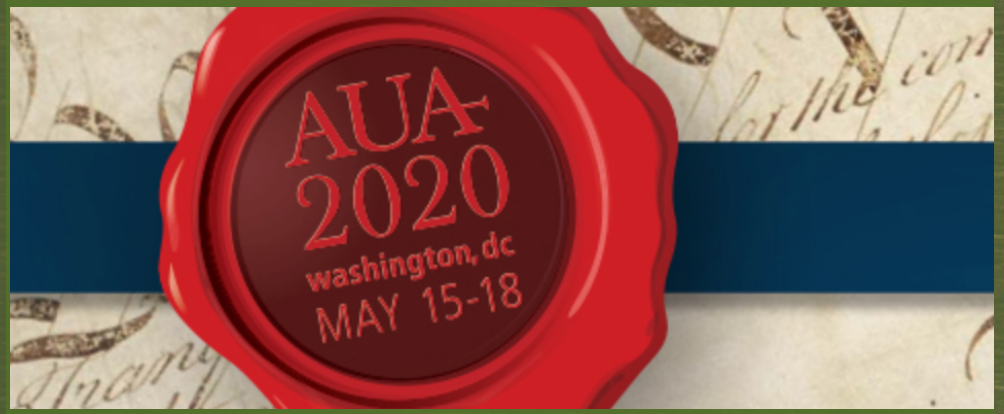
CONCLUSIONS

Establishing a threshold of **34**, **we could avoid 31% of the biopsies.**

Among them:

19,6% could present PCa (6,1% of the total) and,

5,3% would be PCa-clinically significant (1,6% of the total)



In our experience, PHI is a useful tool that can safely select which patients with clinical suspicious of PCa can avoid a first prostate biopsy.

It is more accurate than total PSA, PSA density and free/total PSA in predicting PCa in biopsy-naïve patients.