Η ΜΕΘΟΔΟΛΟΓΙΑ ΤΗΣ ΒΙΟΨΙΑΣ ΤΟΥ ΠΡΟΣΤΑΤΗ ΑΛΛΑΖΕΙ

ΔΙΛΗΜΜΑΤΑ ΚΑΙ ΠΡΟΟΠΤΙΚΕΣ

Στυλιανός Θ. Γιαννακόπουλος
Αναπληρωτής Καθηγητής Ουρολογίας
Δημοκριτείου Πανεπιστημίου Θράκης

ΣΥΓΚΡΟΥΣΗ ΣΥΜΦΕΡΟΝΤΩΝ

Travel grants and/or advisor/lecturer:

Astellas, Amgen, Boston Scientific, Coloplast, GSK, Genekor, Ipsen, Vianex

Το ποσοστό θετικής επαναληπτικής βιοψίας σε άνδρες με υποψία καρκίνου προστάτη και μία προηγηθείσα αρνητική βιοψία είναι 10-35%

1. Chun FK, Epstein JI, Ficarra V, Freedland SJ, Montironi R, Montorsi F, et al. Optimizing performance and interpretation of prostate biopsy: a critical analysis of the literature. Eur Urol 2010;58:851-64

2. Kirby R, Fitzpatrick JM. Optimising repeat prostate biopsy decisions and procedures. BJU Int 2012;109:1750-4.

ΑΙΤΙΑ ΑΡΝΗΤΙΚΗΣ ΒΙΟΨΙΑΣ ΠΡΟΣΤΑΤΗ

- Ανεπαρκής αριθμός ιστοτεμαχίων
- Μη ορατές βλάβες στο διορθικό υπερηχογράφημα και κατά συνέπεια «άστοχες» βιοψίες
- Απουσία καρκινικής νόσου

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 MAY 27, 2004 VOL. 350 NO. 22

Prevalence of Prostate Cancer among Men with a Prostate-Specific Antigen Level ≤4.0 ng per Milliliter

Ian M. Thompson, M.D., Donna K. Pauler, Ph.D., Phyllis J. Goodman, M.S., Catherine M. Tangen, Dr.P.H., M. Scott Lucia, M.D., Howard L. Parnes, M.D., Lori M. Minasian, M.D., Leslie G. Ford, M.D., Scott M. Lippman, M.D., E. David Crawford, M.D., John J. Crowley, Ph.D., and Charles A. Coltman, Jr., M.D.

PROSTATE CANCER PREVENTION TRIAL

(PCPT)

Relationship of PSA Level to Prostate Cancer Prevalence and High-Grade Disease*

PSA Level	No. of Men (N-2950)	Men with Prostate Cancer (N-449) *no. of Men (%)*	Men with High-Grade Prostate Cancer (N-67) *no./total no. (%)*
≤0.5 ng/ml	486	32 (6.6)	4/32 (12.5)
0.6–1.0 ng/ml	791	80 (10.1)	8/80 (10.0)
1.1–2.0 ng/ml	998	170 (17.0)	20/170 (11.8)
2.1–3.0 ng/ml	482	115 (23.9)	22/115 (19.1)
3.1–4.0 ng/ml	193	52 (26.9)	13/52 (25.0)

* High-grade disease was defined by a Gleason score of 7 or greater. The population above was restricted to men with a PSA level of 4.0 ng per milliliter or less throughout the study.

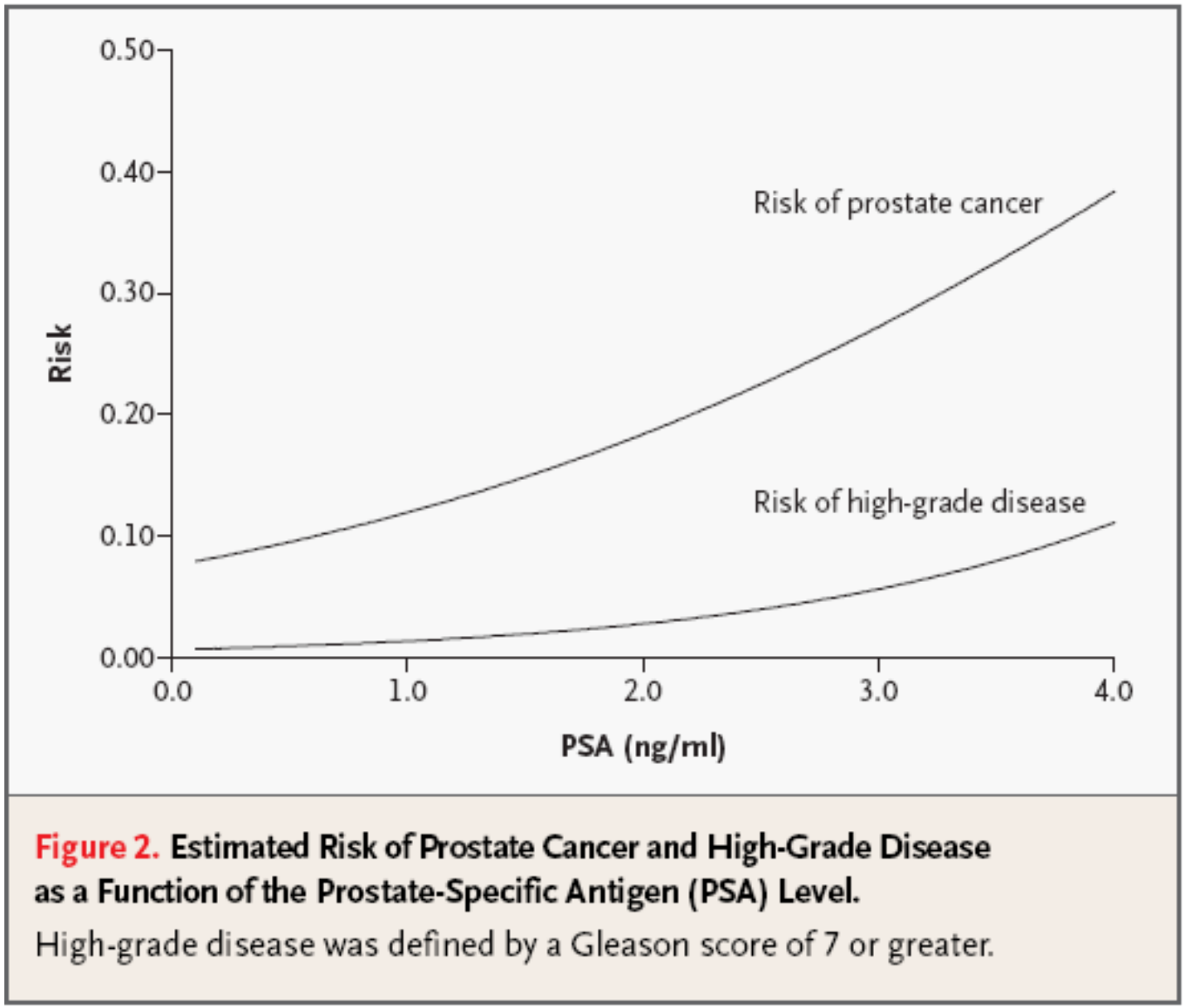

Figure 2. Estimated Risk of Prostate Cancer and High-Grade Disease as a Function of the Prostate-Specific Antigen (PSA) Level.

High-grade disease was defined by a Gleason score of 7 or greater.

Δεν υπάρχει καμία «ασφαλής κατώτερη τιμή» PSA κάτω από την οποία να μπορούμε να διαβεβαιώσουμε έναν άνδρα ότι δεν έχει καρκίνο προστάτη

Early Detection of Prostate Cancer: AUA Guideline

H. Ballentine Carter, Peter C. Albertsen, Michael J. Barry, Ruth Etzioni, Stephen J. Freedland, Kirsten Lynn Greene, Lars Holmberg, Philip Kantoff, Badrinath R. Konety, Mohammad Hassan Murad, David F. Penson and Anthony L. Zietman

From the American Urological Association Education and Research, Inc., Linthicum, Maryland

Purpose: The guideline purpose is to provide the urologist with a framework for the early detection of prostate cancer in asymptomatic average risk men.

Materials and Methods: A systematic review was conducted and summarized evidence derived from over 300 studies that addressed the predefined outcomes of interest (prostate cancer incidence/mortality, quality of life, diagnostic accuracy and harms of testing). In addition to the quality of evidence, the panel considered values and preferences expressed in a clinical setting (patient-physician dyad) rather than having a public health perspective. Guideline statements were organized by age group in years (age <40; 40 to 54; 55 to 69; ≥70).

Abbreviations and Acronyms

DRE = digital rectal examination

ERSPC = European Randomized Study of Screening for Prostate Cancer

FDA = Food and Drug Administration

PLCO = Prostate, Lung, Colorectal

Index Groups

The guideline statements listed in this document target men at average risk, defined as a man without risk factors, such as a family history of prostate cancer in multiple generations and/or family history of early onset below age 55 years or African-American race. Because the benefit/harm profile of PSA-based prostate cancer screening is highly age dependent, guideline statements included in this document target four index groups; these age ranges were chosen to correspond to age ranges tested in randomized trials and data from population and simulation studies.

1. Men less than 40 years of age
2. Men age 40 to 54 years
3. Men age 55 to 69 years
4. Men age 70+ years

GUIDELINE STATEMENTS AND RATIONALE

1. The Panel recommends against PSA screening in men under age 40 years. (*Recommendation; Evidence Strength Grade C*)

2. The Panel does not recommend routine screening in men between ages 40 to 54 years at average risk. (*Recommendation; Evidence Strength Grade C*)

For men between ages 40 to 54 years at higher risk (e.g. positive family history or African-American race), decisions regarding prostate cancer screening should be individualized.

3. For men ages 55 to 69 years the Panel recognizes that the decision to undergo PSA screening involves weighing the benefits of preventing prostate cancer mortality in 1 man for every 1,000 men screened over a decade against the known potential harms associated with screening and treatment. For this reason, the Panel strongly recommends shared decision-making for men age 55 to 69 years that are considering PSA screening and proceeding based on a man's values and preferences. (*Standard; Evidence Strength Grade B*)

The greatest benefit of screening appears to be in men ages 55 to 69 years.

5. The Panel does not recommend routine PSA screening in men age 70 years or more, or any man with less than a 10 to 15 year life expectancy. (*Recommendation; Evidence Strength Grade C*)

Some men age 70 years or more who are in excellent health may benefit from prostate cancer screening.

The American Urological Association's Prostate Cancer Screening Guideline: Which Cancers Will Be Missed in Average-risk Men Aged 40 to 54 Years?

Thomas E. Moody, MD, Curtis L. Spraitzar, Elizabeth Eisenhart, Scott Tully, Jr.
Urology Centers of Alabama, Homewood, AL

- 144 of 456 (32%) of the group of average-risk men had cancer and 105 of 456 (23%) had GS ≥ 7 cancer

- Had the AUA guidelines been followed, these cancers would have been missed or the diagnoses delayed

Multiparametric MRI fusion-guided biopsy

ΚΛΙΝΙΚΕΣ ΕΦΑΡΜΟΓΕΣ

- Στη διενέργεια της πρώτης βιοψίας
- Στην επαναληπτική βιοψία ασθενών με υποψία καρκίνου και προηγούμενη αρνητική βιοψία
- Σε ασθενείς υπό ενεργή επιτήρηση (active surveillance)

Diagnostic accuracy of multi-parametric MRI and TRUS biopsy in prostate cancer (PROMIS): a paired validating confirmatory study

Hashim U Ahmed, Ahmed El-Shater Bosaily*, Louise C Brown*, Rhian Gabe, Richard Kaplan, Mahesh K Parmar, Yolanda Collaco-Moraes, Katie Ward, Richard G Hindley, Alex Freeman, Alex P Kirkham, Robert Oldroyd, Chris Parker, Mark Emberton, and the PROMIS study group†*

Summary

Background Men with high serum prostate specific antigen usually undergo transrectal ultrasound-guided prostate biopsy (TRUS-biopsy). TRUS-biopsy can cause side-effects including bleeding, pain, and infection. Multi-parametric magnetic resonance imaging (MP-MRI) used as a triage test might allow men to avoid unnecessary TRUS-biopsy and improve diagnostic accuracy.

Lancet 2017; 389: 815–22
Published Online
January 19, 2017
http://dx.doi.org/10.1016/S0140-6736(16)32401-1

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

MRI-Targeted or Standard Biopsy for Prostate-Cancer Diagnosis

V. Kasivisvanathan, A.S. Rannikko, M. Borghi, V. Panebianco, L.A. Mynderse, M.H. Vaarala, A. Briganti, L. Budäus, G. Hellawell, R.G. Hindley, M.J. Roobol, S. Eggener, M. Ghei, A. Villers, F. Bladou, G.M. Villeirs, J. Virdi, S. Boxler, G. Robert, P.B. Singh, W. Venderink, B.A. Hadaschik, A. Ruffion, J.C. Hu, D. Margolis, S. Crouzet, L. Klotz, S.S. Taneja, P. Pinto, I. Gill, C. Allen, F. Giganti, A. Freeman, S. Morris, S. Punwani, N.R. Williams, C. Brew-Graves, J. Deeks, Y. Takwoingi, M. Emberton, and C.M. Moore, for the PRECISION Study Group Collaborators*

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S0140-6736(16)32401-1

	mpMRI-fusion Bx	12-core TRUS Bx
Ευαισθησία	93%	48%
NPV	89%	74%

- Η διαλογή των ασθενών με mpMRI θα είχε ως αποτέλεσμα να αποφύγει τη βιοψία το 27% αυτών

- Ωστόσο, δεν θα είχε διαγνωστεί ένα 7% των κλινικά σημαντικών καρκίνων

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Table 1. Characteristics of the Participants at Baseline.*

Characteristic	MRI-Targeted Biopsy Group (N=252)	Standard-Biopsy Group (N=248)
Age — yr	64.4±7.5	64.5±8.0
PSA level — ng/ml		
Median	6.75	6.50
Interquartile range	5.16–9.35	5.14–8.65
Family history of prostate cancer — no. (%)	48 (19)	40 (16)
Abnormal digital rectal examination — no. (%)	36 (14)	38 (15)

Table 2. Comparison of Cancer Detection between Groups.*

Outcome	MRI-Targeted Biopsy Group (N=252)	Standard-Biopsy Group (N=248)	Difference†	P Value
Biopsy outcome — no. (%)			—	—
No biopsy because of negative result on MRI	71 (28)	0		
Benign tissue	52 (21)	98 (40)		
Atypical small acinar proliferation	0	5 (2)		
High-grade prostatic intraepithelial neoplasia	4 (2)	10 (4)		
Gleason score				
3+3	23 (9)	55 (22)		
3+4	52 (21)	35 (14)		
3+5	2 (1)	1 (<1)		
4+3	18 (7)	19 (8)		
4+4	13 (5)	6 (2)		
4+5	7 (3)	2 (1)		
5+5	3 (1)	1 (<1)		
No biopsy‡	4 (2)	3 (1)		
Withdrawal from trial§	3 (1)	13 (5)		
Clinically significant cancer¶				
Intention-to-treat analysis — no. (%)	95 (38)	64 (26)	12 (4 to 20)	0.005
Modified intention-to-treat analysis — no./total no. (%)	95/245 (39)	64/235 (27)	12 (3 to 20)	0.007
Per-protocol analysis — no./total no. (%)	92/235 (39)	62/227 (27)	12 (3 to 20)	0.007
Clinically insignificant cancer — no. (%)	23 (9)	55 (22)	−13 (−19 to −7)	<0.001
Maximum cancer core length — mm	7.8±4.1	6.5±4.5	1.0 (0.0 to 2.1)	0.053
Core positive for cancer — no./total no. of cores (%)	422/967 (44)	515/2788 (18)	—	—
Men who did not undergo biopsy — no. (%)‖	78 (31)	16 (6)	—	—

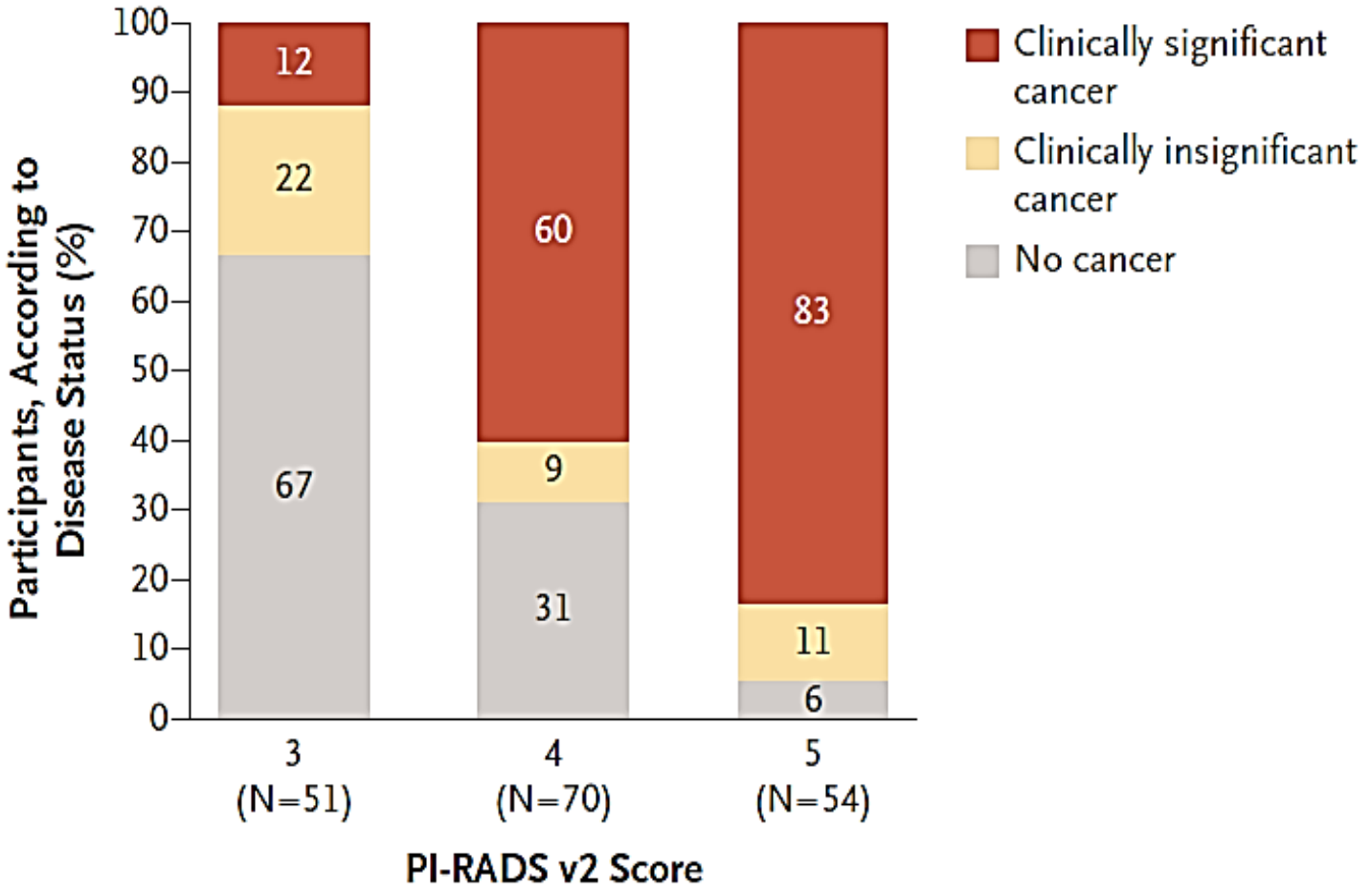

Figure 3. Percentages of Men with Clinically Significant, Clinically Insignificant, and No Cancer, Identified According to PI-RADS v2 Score.

Multiparametric MRI fusion-guided biopsy στη διενέργεια της πρώτης βιοψίας

Κόστος ;

EUROPEAN UROLOGY 73 (2018) 23–30

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Prostate Cancer

Editorial by Jochen Walz on pp. 31–32 of this issue

Optimising the Diagnosis of Prostate Cancer in the Era of Multiparametric Magnetic Resonance Imaging: A Cost-effectiveness Analysis Based on the Prostate MR Imaging Study (PROMIS)

Rita Faria [a,], Marta O. Soares [a], Eldon Spackman [b], Hashim U. Ahmed [c,g], Louise C. Brown [d,**], Richard Kaplan [d], Mark Emberton [e,f], Mark J. Sculpher [a]*

The use of MPMRI first and then up to two MRI-targeted TRUSBs detects more CS cancers per pound spent than a strategy using TRUSB first and is cost effective

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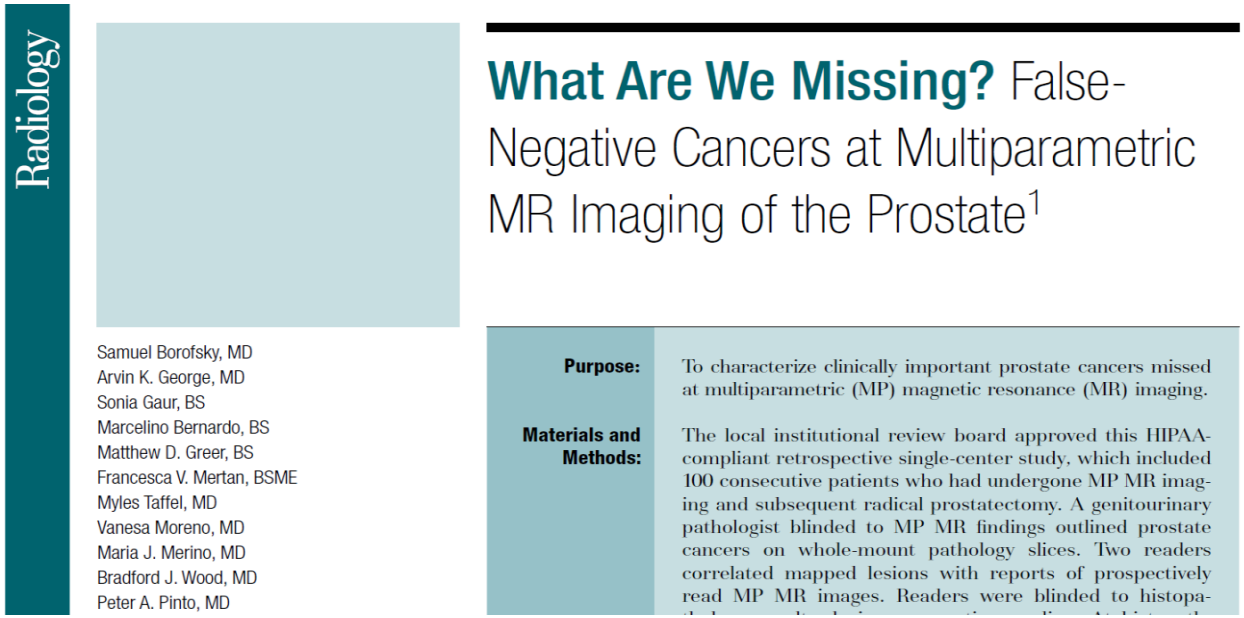
Men who did not undergo biopsy — no. (%)‖	78 (31)	16 (6)	—	—

Diagnostic accuracy of mpMRI and fusion-guided targeted biopsy evaluated by transperineal template saturation prostate biopsy for the detection and characterization of prostate cancer

Ashkan Mortezavi[a], Olivia Märzendorfer[a], Olivio F. Donati[b], Gianluca Rizzi[a], Niels J. Rupp[c], Marian S. Wettstein[a,d], Oliver Gross[a], Tullio Sulser[a], Thomas Hermanns[a], Daniel Eberli[a]

- Among 124 patients without suspicious lesion on mpMRI, 32 (25.8%) were found to have csPCa on TTSPB

- MpMRI alone should not be used as a triage test due to a substantial number of false-negative cases with csPCa



Radiology

What Are We Missing? False-Negative Cancers at Multiparametric MR Imaging of the Prostate[1]

Samuel Borofsky, MD
Arvin K. George, MD
Sonia Gaur, BS
Marcelino Bernardo, BS
Matthew D. Greer, BS
Francesca V. Mertan, BSME
Myles Taffel, MD
Vanesa Moreno, MD
Maria J. Merino, MD
Bradford J. Wood, MD
Peter A. Pinto, MD

Purpose: To characterize clinically important prostate cancers missed at multiparametric (MP) magnetic resonance (MR) imaging.

Materials and Methods: The local institutional review board approved this HIPAA-compliant retrospective single-center study, which included 100 consecutive patients who had undergone MP MR imaging and subsequent radical prostatectomy. A genitourinary pathologist blinded to MP MR findings outlined prostate cancers on whole-mount pathology slices. Two readers correlated mapped lesions with reports of prospectively read MP MR images. Readers were blinded to histopa-

- At least one clinically important tumor was missed in 26% of patients, and lesion size was underestimated in 8%

- Clinically important lesions can be missed or their size can be underestimated at MP MR imaging

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European Association of Urology

Platinum Priority – Prostate Cancer

Editorial by XXX on pp. x–y of this issue

Combined Clinical Parameters and Multiparametric Magnetic Resonance Imaging for Advanced Risk Modeling of Prostate Cancer—Patient-tailored Risk Stratification Can Reduce Unnecessary Biopsies

Jan Philipp Radtke[a,b,*], *Manuel Wiesenfarth*[c], *Claudia Kesch*[a], *Martin T. Freitag*[b], *Celine D. Alt*[d], *Kamil Celik*[a], *Florian Distler*[a,†], *Wilfried Roth*[e,‡], *Kathrin Wieczorek*[e], *Christian Stock*[f], *Stefan Duensing*[a], *Matthias C. Roethke*[b], *Dogu Teber*[a], *Heinz-Peter Schlemmer*[b], *Markus Hohenfellner*[a], *David Bonekamp*[a,§], *Boris A. Hadaschik*[a,§,‖]

Multiparametric MRI fusion-guided biopsy

ΚΛΙΝΙΚΕΣ ΕΦΑΡΜΟΓΕΣ

- Στη διενέργεια της πρώτης βιοψίας
- Στην επαναληπτική βιοψία ασθενών με υποψία καρκίνου και προηγούμενη αρνητική βιοψία
- Σε ασθενείς υπό ενεργή επιτήρηση (active surveillance)

FULL PAPER

BJC

British Journal of Cancer (2017) 116, 1159–1165 | doi: 10.1038/bjc.2017.57

Keywords: prostate cancer; diagnostic accuracy; multiparametric magnetic resonance imaging (mpMRI)

The PICTURE study: diagnostic accuracy of multiparametric MRI in men requiring a repeat prostate biopsy

Lucy A M Simmons[1,2,12], Abi Kanthabalan[1,2,12], Manit Arya[2], Tim Briggs[2,3], Dean Barratt[4], Susan C Charman[5,6], Alex Freeman[7], James Gelister[3], David Hawkes[4], Yipeng Hu[4], Charles Jameson[7], Neil McCartan[1,2], Caroline M Moore[1,2], Shonit Punwani[8,9], Navin Ramachandran[8], Jan van der Meulen[5,6], Mark Emberton[1,2,13] and Hashim U Ahmed[*,1,2,10,11,13]

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Urological Oncology

Multicentre evaluation of targeted and systematic biopsies using magnetic resonance and ultrasound image-fusion guided transperineal prostate biopsy in patients with a previous negative biopsy

Nienke L. Hansen*[†‡], Claudia Kesch[§], Tristan Barrett[‡¶], Brendan Koo[‡¶], Jan P. Radtke[§**], David Bonekamp**, Heinz-Peter Schlemmer**, Anne Y. Warren[‡††], Kathrin Wieczorek[‡‡], Markus Hohenfellner[§], Christof Kastner[‡§§] and Boris Hadaschik[§]

Table 2 Findings on mpMRI in 487 men with suspicion of prostate cancer after previous negative biopsies.

MRI findings	All patients, *n* (%)	Centre 1, *n* (%)	Centre 2, *n* (%)
PI-RADS 1–2	144 (30)	91 (32)	53 (27)
PI-RADS 3–5	343 (70)	196 (68)	147 (74)
PI-RADS 3	128 (26)	76 (26)	52 (26)
PI-RADS 4	100 (21)	58 (20)	42 (21)
PI-RADS 5	115 (24)	62 (22)	53 (27)
Total	487 (100)	287 (100)	200 (100)

Special Article

Prostate Magnetic Resonance Imaging and Magnetic Resonance Imaging Targeted Biopsy in Patients with a Prior Negative Biopsy: A Consensus Statement by AUA and SAR

Andrew B. Rosenkrantz,*,† Sadhna Verma, Peter Choyke, Steven C. Eberhardt, Scott E. Eggener,‡ Krishnanath Gaitonde, Masoom A. Haider, Daniel J. Margolis, Leonard S. Marks, Peter Pinto, Geoffrey A. Sonn and Samir S. Taneja§

- If a biopsy is recommended, prostate magnetic resonance imaging and subsequent magnetic resonance imaging targeted cores appear to facilitate the detection of clinically significant disease over standardized repeat biopsy
- Patients receiving a PI-RADS assessment category of 3 to 5 warrant repeat biopsy with image guided targeting.

Special Article

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- Thus, when high quality prostate magnetic resonance imaging is available, it should be strongly considered for any patient with a prior negative biopsy who has persistent clinical suspicion for prostate cancer

ΠΟΙΟΤΗΤΑ ΕΚΤΕΛΕΣΗΣ ΚΑΙ ΔΙΑΓΝΩΣΗΣ ΤΗΣ mpMRI

- Απαιτείται εξασφάλιση στην ποιότητα της απεικόνισης της mpMRI
- Απαιτείται εμπειρία των εμπλεκομένων ακτινολόγων στη διάγνωση
- Απαιτείται εμπειρία στην εκτέλεση της mpMRI-fusion guided biopsy

Η βιβλιογραφία δείχνει ότι οι πιο έμπειροι ακτινολόγοι στην mpMRI του προστάτη επιδεικνύουν καλύτερες επιδόσεις στην αξιολόγηση των αποτελεσμάτων

1. Futterer JJ, et al. Radiology 2006; 238: 184
2. Latchamsetty KC, et al. Can J Urol 2007; 14: 3429.

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Το ποσοστό συμφωνίας στη διάγνωση της mp MRI μεταξύ των ακτινολόγων των νοσοκομείων που συμμετείχαν και της κεντρικής ομάδας ειδικών που επαναξιολόγησε τις mp MRIs ήταν 78%

BJUI
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Urological Oncology

Prostate cancer detection on transrectal ultrasonography-guided random biopsy despite negative real-time magnetic resonance imaging/ ultrasonography fusion-guided targeted biopsy: reasons for targeted biopsy failure

Hannes Cash*, Karsten Günzel*, Andreas Maxeiner*, Carsten Stephan*, Thomas Fischer†, Tahir Durmus†, Kurt Miller*, Patrick Asbach†, Matthias Haas† and Carsten Kempkensteffen*

ΑΙΤΙΑ ΑΠΟΤΥΧΙΑΣ ΤΗΣ mpMRI FUSION-GUIDED Bx

1. Ανεπιτυχής/Μη ακριβής βιοψία της βλάβης
2. Λανθασμένα υψηλό PI-RADS score στην αρχική εκτίμηση της MRI

mpMRI targeted Bx μόνο ή και συνδυασμός με τυχαίες συστηματικές βιοψίες;

Στην τρέχουσα βιβλιογραφία το ποσοστό καρκίνων που ανιχνεύτηκαν με τυχαίες συστηματικές βιοψίες, ενώ η mpMRI targeted βιοψίες ήταν αρνητικές κυμαίνεται από 0-23%

1. Delongchamps NB, et al. J Urol 2016; 196:1069–1075
2. Sonn GA, et al. J Urol 2013; 189:86–91
3. Filson CP, et al. Cancer 2016; 122:884–892
4. Cash H, et al. BJU Int 2016; 118:35–43

Special Article

Prostate Magnetic Resonance Imaging and Magnetic Resonance Imaging Targeted Biopsy in Patients with a Prior Negative Biopsy: A Consensus Statement by AUA and SAR

Andrew B. Rosenkrantz,*,† Sadhna Verma, Peter Choyke, Steven C. Eberhardt, Scott E. Eggener,‡ Krishnanath Gaitonde, Masoom A. Haider, Daniel J. Margolis, Leonard S. Marks, Peter Pinto, Geoffrey A. Sonn and Samir S. Taneja§

- Some CS cancers falling below the threshold of MRI detection do exist

- A case specific decision must be made regarding whether to perform concurrent systematic sampling at the targeted biopsy in order to maximize CS cancer detection

- Deferral of concurrent systematic biopsy should only be considered when quality assurance has been performed to support the outcomes of MRI targeted biopsy in the local practice.

Πόσα ιστοτεμάχια πρέπει να ληφθούν από την ορατή βλάβη στην mpMRI;

ΣΤΟΧΟΣ

1. Να αποφευχθεί η ελλιπής/μη ακριβής λήψη βιοπτικού υλικού από τη βλάβη

2. Να μη χαθεί η πιθανότητα διάγνωσης υψηλότερου Gleason score λόγω ετερογένειας του καρκινικού κυτταρικού πληθυσμού εντός της ίδιας βλάβης

Δύο ιστοτεμάχια από το κέντρο της ορατής βλάβης φαίνεται ότι είναι ο ελάχιστος αριθμός που δίνει αξιόπιστα αποτελέσματα

1. Porpiglia F, et al. J Urol 2017; 198: 58
2. Rosenkrantz A, et al. J Urol 2016; 196: 2013

Cognitive targeting

vs

Fusion targeting

vs

In-bore targeting

Author's Accepted Manuscript

Is it time to perform only MRI targeted cores? Our experience in 1032 men submitted to prostate biopsy

Pietro Pepe , Antonio Garufi , Gian Domenico Priolo , Antonio Galia , Filippo Fraggetta , Michele Pennisi

	Cognitive fusion Bx	mpMRI fusion-guided Bx
Ποσοστό ανίχνευσης κλινικά σημαντικού καρκίνου	35,8% 82/229	36,5% 46/126

Special Article

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Andrew B. Rosenkrantz,*,† Sadhna Verma, Peter Choyke, Steven C. Eberhardt, Scott E. Eggener,‡ Krishnanath Gaitonde, Masoom A. Haider, Daniel J. Margolis, Leonard S. Marks, Peter Pinto, Geoffrey A. Sonn and Samir S. Taneja§

While transrectal ultrasound guided magnetic resonance imaging fusion or in-bore magnetic resonance imaging targeting may be valuable for more reliable targeting, especially for lesions that are small or in difficult locations, in the absence of such targeting technologies cognitive (visual) targeting remains a reasonable approach in skilled hands.

Multiparametric MRI fusion-guided biopsy

ΚΛΙΝΙΚΕΣ ΕΦΑΡΜΟΓΕΣ

- Στη διενέργεια της πρώτης βιοψίας
- Στην επαναληπτική βιοψία ασθενών με υποψία καρκίνου και προηγούμενη αρνητική βιοψία
- Σε ασθενείς υπό ενεργή επιτήρηση (active surveillance)

Multiparametric MRI fusion-guided biopsy σε ασθενείς υποψήφιους για ενεργό επιτήρηση ή ασθενείς υπό ενεργό επιτήρηση

- Καλύτερη αρχική επιλογή των ασθενών
- Καλύτερη παρακολούθηση της εξέλιξης της νόσου

Prostate Cancer and Prostatic Diseases (2016), 1–9

www.nature.com/pcan

ORIGINAL ARTICLE

Further reduction of disqualification rates by additional MRI-targeted biopsy with transperineal saturation biopsy compared with standard 12-core systematic biopsies for the selection of prostate cancer patients for active surveillance

JP Radtke[1,2], TH Kuru[1,5], D Bonekamp[2], MT Freitag[2], MB Wolf[2], CD Alt[3], G Hatiboglu[1], S Boxler[1,6], S Pahernik[1], W Roth[4], MC Roethke[2], HP Schlemmer[2], M Hohenfellner[1] and BA Hadaschik[1]

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Prostate Cancer
Editorial by XXX on pp. x–y of this issue

Nine-year Follow-up for a Study of Diffusion-weighted Magnetic Resonance Imaging in a Prospective Prostate Cancer Active Surveillance Cohort

Daniel R. Henderson [a,b], Nandita M. de Souza [b,c], Karen Thomas [a], Sophie F. Riches [b,c], Veronica A. Morgan [b,c], Syed A. Sohaib [b,c], David P. Dearnaley [a,b], Christopher C. Parker [a,b], Nicholas J. van As [a,b,]*

- Η τιμή ADC είναι χρήσιμος δείκτης για την παρακολούθηση ασθενών σε AS

- Η χαμηλή τιμή ADC συνδέεται με μικρότερο χρονικό διάστημα μέχρι την εμφάνιση επιδείνωσης στην ιστολογική εικόνα της νόσου

ΘΕΡΑΠΕΥΤΙΚΕΣ ΠΡΟΟΠΤΙΚΕΣ

- Επιλογή κατάλληλων ασθενών για εστιακή θεραπεία (focal therapy)

- Εφαρμογή εστιακών θεραπειών
  - Focal laser ablation
  - High-intensity focused ultrasound
  - Cryotherapy

ΕΥΧΑΡΙΣΤΩ