Technické aspekty odběru a hodnocení biopsií prostaty u mužů s podezřením na včasný karcinom prostaty – druhá část

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LITERATURA

- Egevad L, Norlen BJ, Norberg M. The value of multiple core biopsies for predicting the Gleason score of prostate cancer. *BJU Int* 2001; 88: 716–21
- 2 Makhlouf AA, Krupski TL, Kunkle D, Theodorescu D. The effect of sampling more cores on the predictive accuracy of pathological grade and tumour distribution in the prostate biopsy. *BJU Int* 2004; 93: 271–4
- 3 Montironi R, Mazzucchelli R, Scarpelli M. Precancerous lesions and conditions of the prostate: from morphological and biological characterization to chemoprevention. *Ann NY Acad Sci* 2002; 963: 169–84
- 4 San Francisco IF, Olumi AF, Kao J, Rosen S, DeWolf WC. Clinical management of prostatic intraepithelial neoplasia as diagnosed by extended needle biopsies. *BJU Int* 2003; 91: 350–4
- 5 Green JS, Knight RJ, Hunter-Campbell P *et al.* An investigation into the spatial relationship between prostate intraepithelial neoplasia and cancer. *Prostate Cancer Prostatic Dis* 2001; 4: 97–100
- 6 Prange W, Erbersdobler A, Hammerer P et al. Significance of high-grade prostatic intraepithelial neoplasia in needle biopsy specimens. Urology 2001; 57: 486–90
- 7 Davidson D, Bostwick DG, Qian J et al. Prostatic intraepithelial neoplasia is a risk factor for adenocarcinoma: predictive accuracy in needle

biopsies. *J Urol* 1995; **154**: 1295–9

- 8 Chan TY, Chan DY, Stutzman KL, Epstein JI. Does increased needle biopsy sampling of the prostate detect a higher number of potentially insignificant tumors? *J Urol* 2001; 166: 2181–4
- 9 Keetch DW, Catalona WJ, Smith DS. Serial prostatic biopsies in men with persistently elevated serum prostate specific antigen values. J Urol 1994; 151: 1571–4
- 10 Stephan C, Jung K, Diamandis EP, Rittenhouse HG, Lein M, Loening SA. Prostate-specific antigen, its molecular forms, and other kallikrein markers for detection of prostate cancer. Urology 2002; 59: 2–8
- 11 Raviv G, Zlotta AR, Janssen T et al. Do prostate specific antigen and prostate specific antigen density enhance the detection of prostate carcinoma after initial diagnosis of prostatic intraepithelial neoplasia without concurrent carcinoma? *Cancer* 1996; 77: 2103–8
- 12 Wiley EL, Davidson P, McIntire DD, Sagalowsky AI. Risk of concurrent prostate cancer in cystoprostatectomy specimens is related to Volume of highgrade prostatic intraepithelial neoplasia. Urology 1997; 49: 692–6
- 13 Kronz JD, Allan CH, Shaikh AA, Epstein JI. Predicting cancer following a diagnosis of high-grade prostatic intraepithelial neoplasia on needle biopsy: data on men

with more than one follow-up biopsy. *Am J Surg Pathol* 2001; **25**: 1079–85

- 14 Naya Y, Ayala AG, Tamboli P, Babaian RJ. Can the number of cores with highgrade prostate intraepithelial neoplasia predict cancer in men who undergo repeat biopsy? *Urology* 2004; 63: 503–8
- 15 Iczkowski KA, Chen HM, Yang XJ, Beach RA. Prostate cancer diagnosed after initial biopsy with atypical small acinar proliferation suspicious for malignancy is similar to cancer found on initial biopsy. Urology 2002; 60: 851–4
- 16 Chan TY, Epstein JI. Followup of atypical prostate needle biopsies suspicious for cancer. Urology 1999; 53: 351–5
- 17 Mian BM, Naya Y, Okihara K, Vakar- Lopez F, Troncoso P, Babaian RJ. Predictors of cancer in repeat extended multisite prostate biopsy in men with previous negative extended multi-site biopsy. Urology 2002; 60: 836–40
- 18 D'Amico AV, Whittington R, Malkowicz SB et al. Investigating the clinical utility of the percent of positive prostate biopsies in predicting PSA outcome following local therapy for patients with clinically localized prostate cancer. Prostate Cancer Prostatic Dis 2000; 3: 259–64
- 19 Freedland SJ, Aronson WJ, Csathy GS et al. Comparison of percentage of total prostate needle biopsy tissue with cancer to percentage of cores with cancer for predicting PSA

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recurrence after radical prostatectomy: results from the SEARCH database. *Urology* 2003; **61**: 742–7

- 20 Grossklaus DJ, Coffey CS, Shappell SB, Jack GS, Chang SS, Cookson MS. Percent of cancer in the biopsy set predicts pathological findings after prostatectomy. J Urol 2002; 167: 2032–5
- 21 Iczkowski KA, Casella G, Seppala RJ et al. Needle core length in sextant biopsy influences prostate cancer detection rate. Urology 2002; 59: 698–703
- 22 Hoedemaeker RF, Van der Kwast TH, Schroder FH. The clinical significance of a small focus of well-differentiated carcinoma at prostate biopsy. *BJU Int* 2003; **92** (Suppl. 2): 92–6
- 23 Wills ML, Sauvageot J, Partin AW, Gurganus R, Epstein JI. Ability of sextant biopsies to predict radical prostatectomy stage. *Urology* 1998; 51: 759– 64
- 24 Tombal B, Tajeddine N, Cosyns JP et al. Does sitespecific labelling and individual processing of sextant biopsies improve the accuracy of prostate biopsy in predicting pathological stage in patients with T1c prostate cancer? BJU Int 2002; 89: 543–8
- 25 Miyake H, Sakai I, Ishimura T, Hara I, Eto H. Significance of cancer detection in the anterior lateral horn on systematic prostate biopsy: the effect on pathological findings of radical prostatectomy specimens. *BJU Int* 2004; **93**: 57–9
- 26 Badalament RA, Miller MC, Peller PA *et al.* An algorithm for predicting nonorgan confined prostate cancer using the results obtained from sextant core biopsies with prostate specific antigen level. *J Urol* 1996; **156**: 1375–80
- 27 de la Taille A, Katz A, Bagiella E, Olsson CA, O'Toole KM, Rubin MA.

Perineural invasion on prostate needle biopsy: an independent predictor of final pathologic stage. *Urology* 1999; 54: 1039– 43

- 28 Wymenga LF, Duisterwinkel FJ, Groenier K, Mensink HJ. Ultrasoundguided seminal vesicle biopsies in prostate cancer. *Prostate Cancer Prostatic Dis* 2000; 3: 100–6
- 29 Van der Kwast TH, Lopes C, Martikainen PM et al. Report of the Pathology Committee: false-positive and falsenegative diagnoses of prostate cancer. BJU Int 2003; 92 (Suppl. 2): 62–5
- 30 O'Dowd GJ, Miller MC, Orozco R, Veltri RW. Analysis of repeated biopsy results within 1 year after a noncancer diagnosis. Urology 2000; 55: 553–9
- 31 Djavan B, Remzi M, Marberger M. When to biopsy and when to stop biopsying. *Urol Clin North Am* 2003; **30**: 253–62
- 32 Bill-Axelson A, Holmberg L, Norlen B, Busch C, Norberg M. No increased prostate cancer incidence after negative transrectal ultrasound guided multiple biopsies in men with increased prostate specific antigen and/or abnormal digital rectal examination. J Urol 2003; 170: 1180–3
- 33 Hayek OR, Noble CB, de la Taille A, Bagiella E, Benson MC. The necessity of a second prostate biopsy cannot be predicted by PSA or PSA derivatives (density or free: total ratio) in men with prior negative prostatic biopsies. *Curr Opin Urol* 1999; 9: 371–5
- Boddy JL, Pike DJ, Malone
 PR. A sevenyear follow-up of men following a benign prostate biopsy. *Eur Urol* 2003; 44: 17–20
- 35 Djavan B. Editorial comment. Urology 2000; 55: 559
- 36 Remzi M, Djavan B, Wammack R et al. Can total and transition zone Volume of

the prostate determine whether to perform a repeat biopsy? *Urology* 2003; **61**: 161–6

- 37 Lopez-Corona E, Ohori M, Scardino PT, Reuter VE, Gonen M, Kattan MW. A nomogram for predicting a positive repeat prostate biopsy in patients with a previous negative biopsy session. J Urol 2003; 170: 1184–8
- 38 Aus G, Abbou CC, Pacik D et al. EAU guidelines on prostate cancer. Eur Urol 2001; 40: 97– 101
- 39 Rietbergen JB, Hoedemaeker RF, Kruger AE, Kirkels WJ, Schroder FH. The changing pattern of prostate cancer at the time of diagnosis: characteristics of screen detected prostate cancer in a population based screening study. J Urol 1999; 161: 1192–8
- 40 Weinstein MH, Epstein JI. Significance of high-grade prostatic intraepithelial neoplasia on needle biopsy. *Hum Pathol* 1993; **24**: 624–9
- 41 Shepherd D, Keetch DW, Humphrey PA, Smith DS, Stahl D. Repeat biopsy strategy in men with isolated prostatic intraepithelial neoplasia on prostate needle biopsy. J Urol 1996; 156: 460–2
- 42 Goeman L, Joniau S, Ponette D et al. Is low-grade prostatic intraepithelial neoplasia a risk factor for cancer? Prostate Cancer Prostatic Dis 2003; 6: 305–10
- 43 Rietbergen JB, Kruger AE, Hoedemaeker RF, Bangma CH, Kirkels WJ, Schroder FH. Repeat screening for prostate cancer after 1-year followup in 984 biopsied men. clinical and pathological features of detected cancer. *J Urol* 1998; 160: 2121–5
- 44 Noguchi M, Yahara J, Koga H, Nakashima O, Noda S. Necessity of repeat biopsies in men for suspected prostate cancer. *Int J Urol* 1999; 6: 7– 12

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- 45 Gore JL, Shariat SF, Miles BJ et al. Optimal combinations of systematic sextant and laterally directed biopsies for the detection of prostate cancer. J Urol 2001; 165: 1554–9
- 46 Norberg M, Egevad L, Holmberg L, Sparen P, Norlen BJ, Busch C. The sextant protocol for ultrasoundguided core biopsies of the prostate underestimates the presence of cancer. *Urology* 1997; 50: 562–6
- 47 Langer JE, Rovner ES, Coleman BG *et al.* Strategy for repeat biopsy of patients with prostatic intraepithelial neoplasia detected by prostate needle biopsy. *J Urol* 1996; 155: 228–31
- 48 Bozlu M, Ulusoy E, Doruk E et al. Voiding impairment after prostate biopsy: does tamsulosin treatment before biopsy decrease this morbidity? Urology 2003; 62: 1050–3
- 49 Park Š, Shinohara K, Grossfeld GD, Carroll PR. Prostate cancer detection in men with prior high grade prostatic intraepithelial neoplasia or atypical prostate biopsy. *J Urol* 2001; 165: 1409–14
- 50 Lui PD, Terris MK, McNeal JE, Stamey TA. Indications for ultrasound guided transition

zone biopsies in the detection of prostate cancer. *J Urol* 1995; **153**: 1000–3

- 51 Fink KG, Hutarew G, Esterbauer B et al. Evaluation of transition zone and lateral sextant biopsies for prostate cancer detection after initial sextant biopsy. Urology 2003; 61: 748–53
- 52 Chen ME, Troncoso P, Johnston DA, Tang K, Babaian RJ. Optimization of prostate biopsy strategy using computer based analysis. *J Urol* 1997; **158**: 2168–75
- 53 Stewart CS, Leibovich BC, Weaver AL, Lieber MM. Prostate cancer diagnosis using a saturation needle biopsy technique after previous negative sextant biopsies. J Urol 2001; 166: 86–91
- 54 Patel AR, Jones JS, Rabets J, DeOreo G, Zippe CD. Parasagittal biopsies add minimal information in repeat saturation prostate biopsy. Urology 2004; 63: 87–9
- 55 Aus G, Abbou CC, Pacik D et al. Guidelines on Prostate Cancer. European Association of Urology; 2003
- 56 Lefkowitz GK, Sidhu GS, Torre P, Lepor H, Taneja SS. Is repeat prostate biopsy for high-grade prostatic intraepithelial neoplasia

necessary after routine 12-core sampling? *Urology* 2001; **58**: 999–1003

- 57 Zackrisson B, Aus G, Bergdahl S et al. The risk of finding focal cancer (less than 3 mm) remains high on re-biopsy of patients with persistently increased prostate specific antigen but the clinical significance is questionable. J Urol 2004; 171: 1500–3
- 58 Roehl KA, Antenor JA, Catalona WJ. Robustness of free prostate specific antigen measurements to reduce unnecessary biopsies in the 2.6–4.0 ng/mL range. J Urol 2002; 168: 922–5

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Zkratky:

(f, t, f/t) PSA, (free, total, free/ total) PSA; TRUS-B, TRUS-guided biopsy; PPV, positive predictive value; RP, radical prostatectomy; PSAD, PSA density; TZ, transition zone; PZ, peripheral zone; LG/HGPIN, low-, high-grade prostatic intraepithelial neoplasia.