



Original Article

Current practice in handling and reporting prostate needle biopsies: Results of a Turkish survey

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ARTICLE INFO

Article history:

Received 2 August 2014

Received in revised form 6 January 2015

Accepted 9 January 2015

Keywords:

Prostate cancer

Needle biopsy

Gleason score

ABSTRACT

Background: In 2005 ISUP (International Society of Urological Pathology) consensus revised the Gleason grading system.

Method: We conducted a web based national survey of the members of Uropathology Working Group (WG) and general pathologists (NWP) to investigate the current practice in reporting prostate needle biopsies.

Results: The revised system was well known and applied by the respondents. In pattern analysis major difference was detected in reporting medium sized, regular cribriform glands. In both group this pattern was reported as Gleason Pattern (GP) 3 by at least 50% of the repliers, the rest reported this pattern as GP 4. Gleason Score (GS) 2–4 was not reported by the WG. In NWP GS 2–4 was reported by 25% either frequently or infrequently. Any amount of secondary higher grade was included in GS by 92.5% of WG and 70% of NWP ($p < 0.05$). Five percent cut off was requested for the lower secondary grade by 71.4% of WG but 64% of NWP. ($p < 0.05$) Tertiary pattern was reported by 64.5% of WG and 34% of NWP ($p < 0.05$). Individual GS was assigned for each core by 46.4% of WG and 26.5% of NWP ($p < 0.05$). When measuring the extend of cancer, most included the benign tissue between cancer foci in the same core. Fat invasion was interpreted as extraprostatic invasion by 85.7% of WG and 55.9% of NWP ($p < 0.05$).

Conclusion: This study showed the specific points where the educational efforts should be focused to have a better and standardized practice pattern of pathologists when reporting prostate biopsies.

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Introduction

The main diagnostic tools for prostate cancer include digital rectal examination, serum PSA level, and transrectal ultrasound guided biopsy. The number of patients diagnosed with prostate cancer has increased over time. In parallel to this, defined, refined and subcategorized information transferred via pathology reporting has become an important guide for clinicians when deciding on proper therapy and appropriate patient management. Research and development in prostate pathology have dramatically altered day-to-day practices regarding the examination of prostate specimens. The existing guidelines are evidence-based documents that influence clinical practice. Various guidelines are available in prostate pathology to standardize the handling and assessment of prostate specimens.

To determine current practice in reporting prostate biopsies and radical prostatectomy specimens, and examine ways in which clinicians make use of these pathology reports, three web-based surveys were conducted by the Uropathology Working Group (WG) of the Urooncology Society of Turkey and the Federation of Turkish Pathology Societies. These surveys also aimed to disseminate up-to-date information about prostate pathology, and to standardize reporting.

This article is the report of the first survey regarding current practices in diagnosing prostate cancer and reporting prostate needle biopsies among both uropathology WG members and pathologists who are not members of working group (NWP), all of whom have various expertise in the field.

Materials and methods

A web based questionnaire was launched with 52 questions. An invitation to participate in the survey was circulated by e-mail to all WG members and to members of Federation of Turkish Pathology Societies in April 2013, reminders were sent two times after that.

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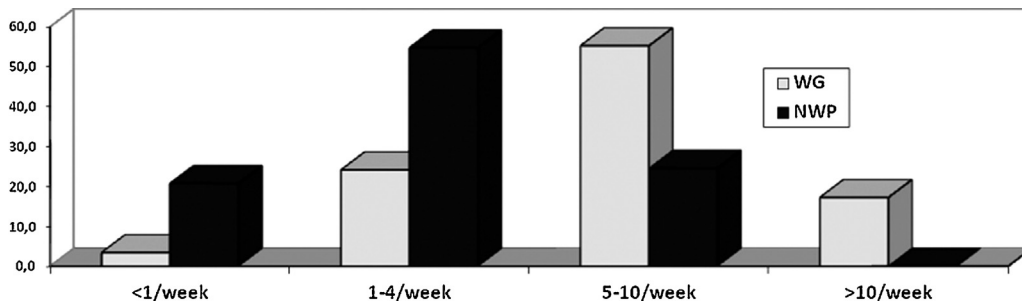


Fig. 1. Prostate biopsy workload information of the respondent pathologists. WG: Uropathology Working Group, NWP: not member of WG (data are given in percentages).

Both groups answered the same questions about the demographic and professional data, questions about diagnosing prostate cancer, and reporting prostate needle biopsies. Most of the questions had fixed response alternatives, in few there were open end questions. χ^2 test was used for comparison of proportions when analyzing differences between WG and NWP. A *p* value of ≤ 0.05 was considered significant.

Results

The number of respondents was 29 in WG (29/42, 69%), and 59 in NWP (59/716, 8%).

Of WG who replied, 72.4% worked in a university and 27.6% in a community hospital. In NWP group, 27.8% worked in a university, 45% worked in a community hospitals, and 13% worked in private health care services.

The experience in prostate pathology was more than 10 years in 51.7% of WG; in NWP group respondents had less experience, 79.6% had less than 10 years of experience (*p* = 0.001).

The workload was >5 needle biopsies/week in 72.4% of the WG, and 24.5% of the NWP (*p* = 0.001). In NWP, 20% of the repliers signed out <1 needle biopsy/week (Fig. 1).

Both groups used formalin fixation (89.7% WG, 92.6% NWP). Hollande (10% WG, 1.9% NWP) and Bouine solution (1.9% in NWP) were the other rare alternatives.

Length of the each core biopsies was always recorded in mm at gross examination of the tissue.

The number of sections routinely generated from each block varied. WG members cut at least 5 sections in 58.6%, NWP cut <5 sections in 61.1% (*p* = 0.05). Unstained sections on intervening levels between H&E sections were routinely generated on needle biopsies for possible immunohistochemistry studies by 24.1% of WG and 29.6% of NWP. Routinely used immunohistochemistry stains were

as follows: p63 89.7% in WG, 79.6% in NWP; high molecular weight cytokeratin 82.8% in WG, 81.5% in NWP; AMACR 65.5% in WG, 37% in NWP. Only AMACR was more often used by WG than the NWP (*p* = 0.001).

The 2005 International Society of Urological Pathology (ISUP) Consensus in Gleason Grading was well known and used by the respondents, although more by WG (92.9%) than by NWP (78.8%; *p* = 0.004). When used, ISUP Consensus guidelines were integrated into both pattern analysis and reporting (88% in WG, 79.5% in NWP). Few pathologists used these guidelines only for pattern analysis (12% in WG, 18.2% in NWP).

In pattern determination, irregular, large cribriform glands were considered as Gleason pattern (GP) 4 by all the repliers in WG. Among NWP 80.8% regarded it as GP 4, 7.7% as GP 3 and 11.5% as GP 5 (*p* = 0.002) (Fig. 2). In case of regular, well formed, medium sized cribriform glands, the pattern was considered as GP 3 by the 50% of WG and 56.6% of the NWP (*p* = 0.35) (Fig. 3). Glomeruloid structures within the cancer were interpreted as GP 4 by the 85.7% of WG and 61.5% of the NWP (*p* = 0.001). Comedonecrosis was considered GP 5 by most of the repliers (96.4% in WG, 84.6% in NWP) although much higher in WG (*p* = 0.004). Any amount of solid groups or single cells detected on 20x magnification was considered to be diagnostic of GP 5 by the 80% of WG and 78.3% of NWP. A few respondents (20% in WG and 21.7% in NWP) considered $\times 40$ as the diagnostic threshold for GP 5 diagnosis.

None of the WG members diagnosed Gleason Score (GS) 2–4 cancer in needle biopsies. In NWP group 15.4% diagnosed GS 2–4 cancer infrequently and 9.6% frequently reported GS 2–4 cancer in needle biopsies (*p* = 0.002) (Fig. 4). For GS 5 (3+2 or 2+3), 10.7% of WG members reported GS 5 cancer infrequently. In the NWP group 30.8% of the respondents rendered GS 5 infrequently and 5.8% frequently (*p* = 0.001) (Fig. 5).

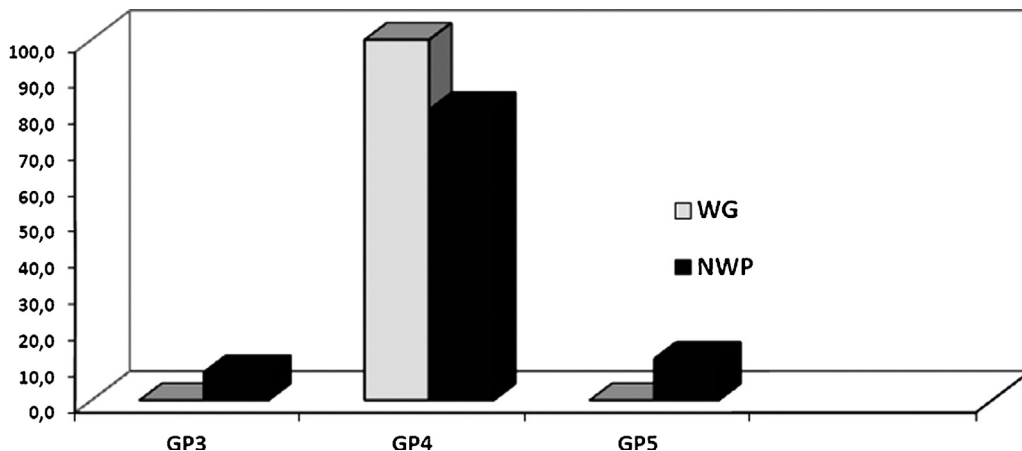


Fig. 2. Diagnostic interpretation of large irregular cribriform glands of tumor. WG: Uropathology Working Group, NWP: not member of WG (data are given in percentages).

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