

Title of abstract:

Prostate Cancer Detection Rate of Biopsies taken after Three Nonpositive Attempts.

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Abstract: Text must be single-spaced and fit within box. Use a standard pica (10 pt.) or elite (12 pt.) typeface. Do not use all capital letters.

Introduction: Despite completely negative prostate biopsies (pbxs), there are clinical reasons to suspect undetected cancer in some cases. Data on which to advise when sampling is enough is difficult to obtain. The aim of this study was to determine the results of pbxs after 3 previous bxs failed to demonstrate cancer.

Materials and Methods: Pts with a minimum of four pbxs taken between 1991 and 1996 were searched for in our files. After grouping the bx diagnoses into positive (cancer identified), suspicious (atypical acini suspicious for cancer), PIN (high grade prostatic intraepithelial neoplasia) and negative, pts were included if their first two bxs were negative and a third bx was negative or contained suspicious or PIN lesions only. DREs were grouped into normal and abnormal. Mean PSA for each case was obtained.

Results: 134 pts (mean age = 67.5 yr.) with 615 (range = 4-12) bxs were studied. The mean time interval between the 1st and last bxs was 31.6 mo. (9.8-60.4). The mean PSA per case was 8.5 ng/ml. The diagnostic groups for the 3rd bxs were = negative: 102, suspicious: 11, and PIN: 21; and their respective number of positive cases for the 4th bxs were 13 (12.7%), 4 (36.4%), and 4 (19.0%). The overall positive rate was 18.5%. The positive rate for the 4th bx was 15.7%. In addition, 3 of 45 (6.7%) pts were positive in the 5th bx and 1 of 16 pts with > 5 bxs was positive in the 7th bx. None of 5 pts with > 7 bxs became positive. The mean time interval between 1st and the pos. bxs in mo. were = overall: 31.0, 4th bx: 28.7, 5th bx: 41.3 and 7th bx: 48.3. The difference in positive rates for the 4th bxs between pts with normal and abnormal DRE was not significant (p = .39). The mean PSA for negative cases was not significantly different from that of positive cases (p = .46).

Conclusions: When clinical suspicion for undetected prostate cancer persists, 4th bxs yield an important number of positive cases. Proportionally, more 4th bxs with cancer are preceded by 3rd bxs with PIN and suspicious lesions than by 3rd negative bxs. Positive rate drops significantly after 4th bx. It is possible that some nonpositive cases harbor cancer in locations difficult to sample. However, with current sampling, few cases are detected after 4th biopsy and whether they represent newly arisen tumors is uncertain.