

TRUS Biopsy – A New Technique?

Can We Do More? A Single Centre Audit

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Background

Prostate cancer remains the second leading cause for death in men in the UK. Traditional Transrectal Ultrasound Guided Prostate Biopsy (TRUS Bx) has been found to miss as much as 50% of clinically significant prostate cancers.

Clinically some patients with negative biopsies have been found with increasing PSA.

Traditionally, biopsies are taken from the left and right sides of the gland and the apex is not sampled. This results in around 30% of clinically significant cancers in the anterior gland being under-sampled. Sampling the anterior zone increases patient discomfort due to increased nervous supply at the anterior lobe.

Recently literature has focused on the use of prostate specific antigen density, as oppose to PSA alone. Men with PSAD >0.19 have an increased risk of clinically significant cancers. It is suggested that combining PSAd with an abnormal DRE may lead to improved detection if the TRUS Bx technique is adapted to include samples from the anterior aspect of the gland.

Aim

Evaluate if an adapted TRUS Bx technique in men with a PSAd of > 0.15 improves clinically significant cancer yield at first TRUS Bx.

Study Design

Retrospective service evaluation.

Ethics

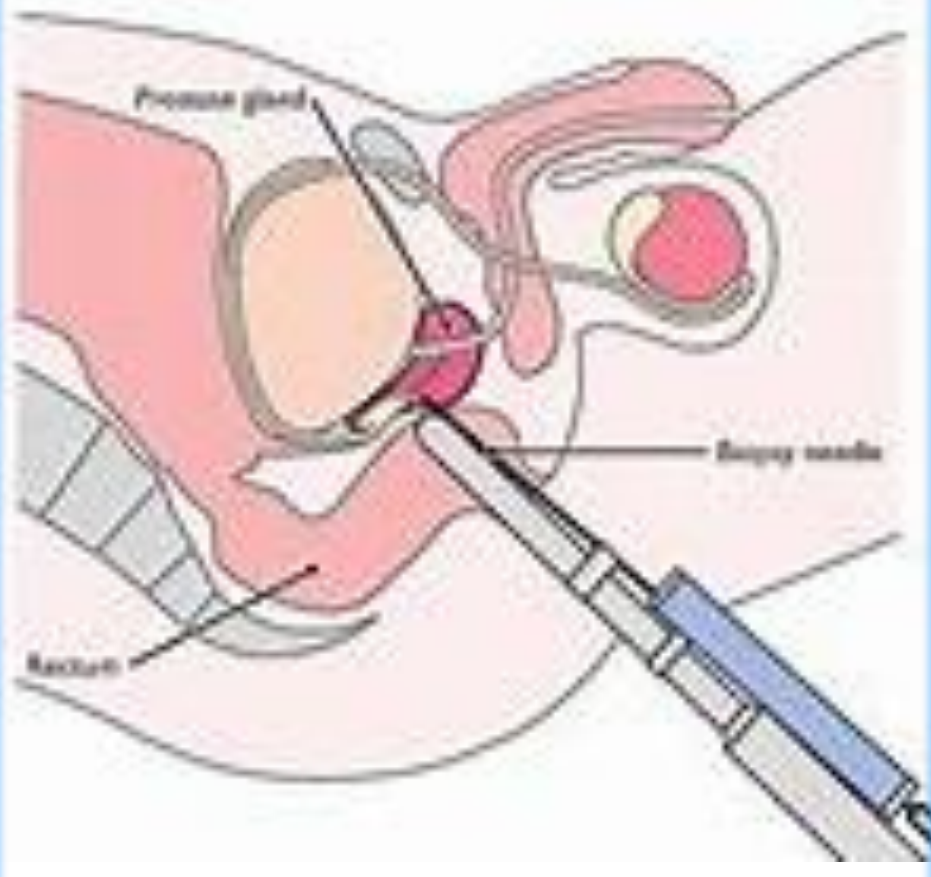
LREC approval not required. Audit approval was granted from the trust.

Method

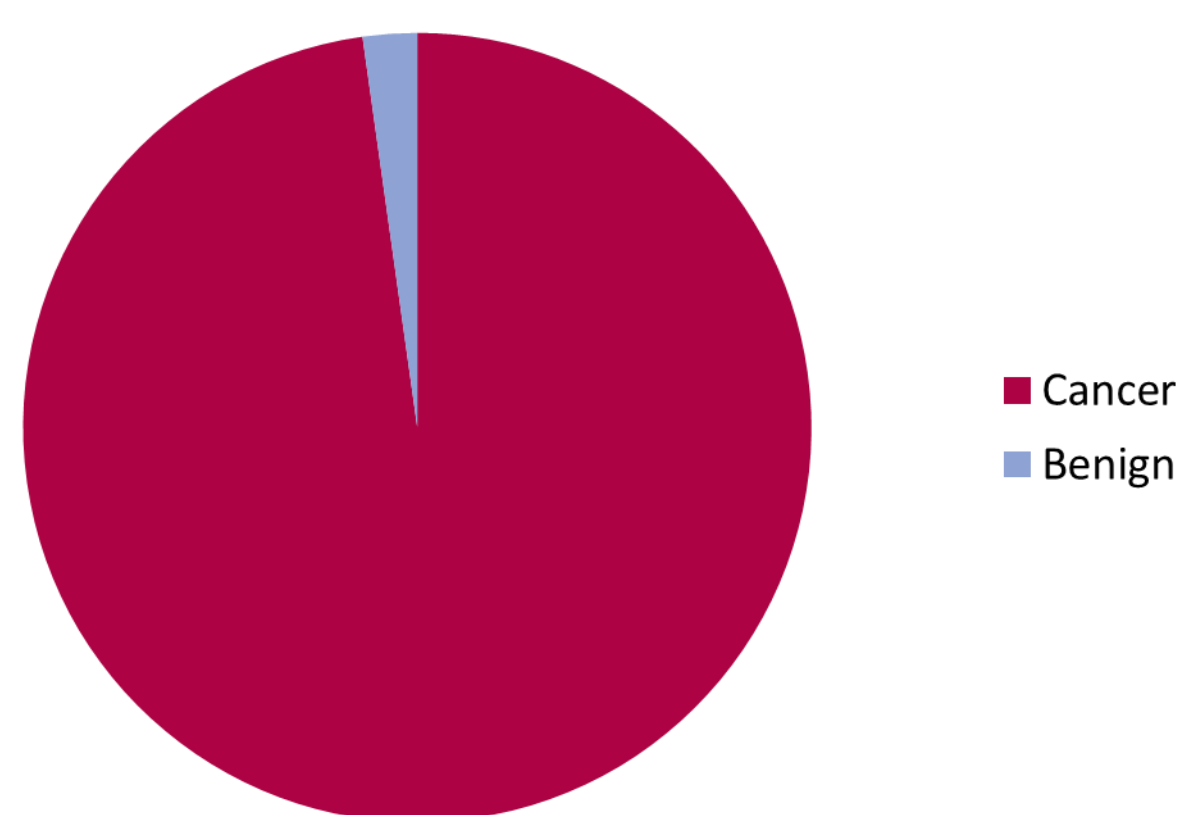
Calculate the PSAd for all men undergoing TRUS (by combining the PSA with the prostate volume calculated during TRUS). Adapt the TRUS technique for any men with a PSAd >0.15 (less than recommended in the literature), to establish if using PSAd improves clinically significant cancer yield at first TRUS Bx.

Patients included were those attending for TRUS from 01/06/18 to 28/02/19. The biopsy technique was recorded and compared with the subsequent histology results.

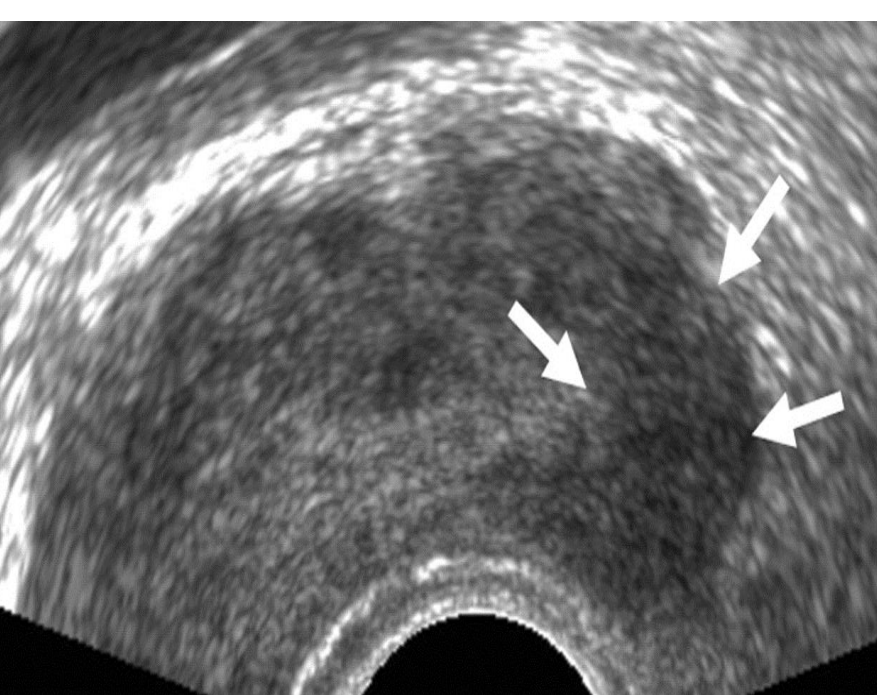
Biopsy technique



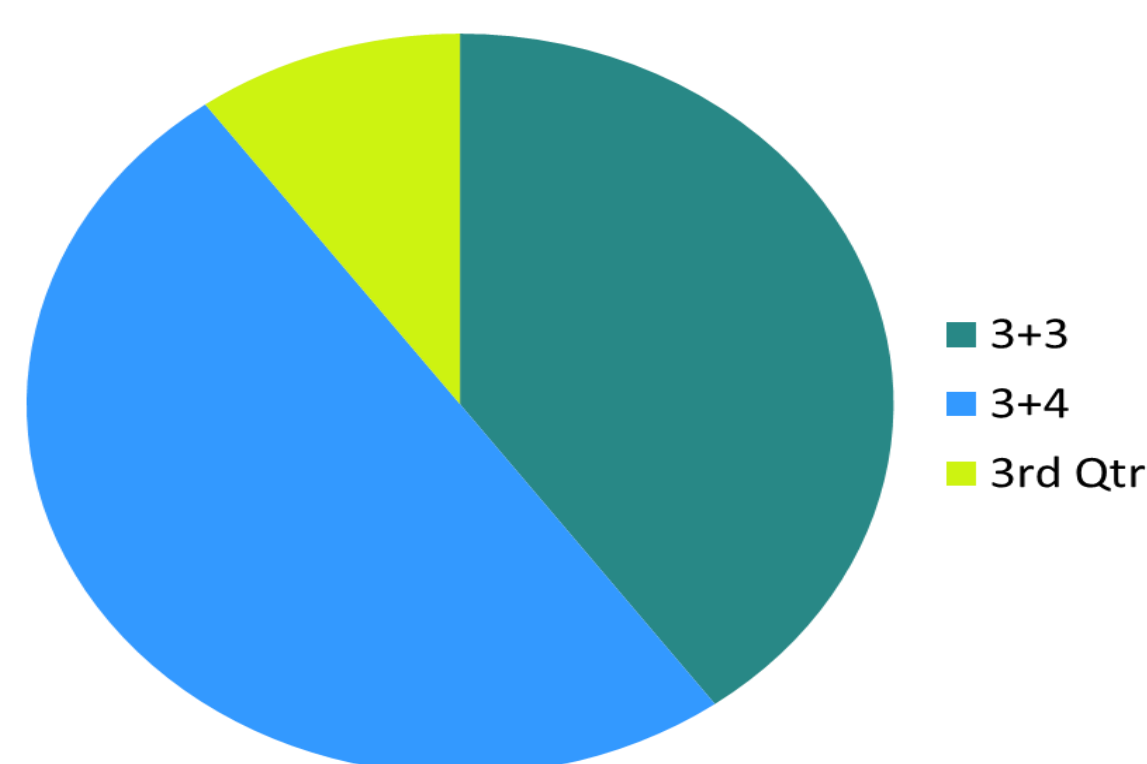
N patients who had the anterior lobe biopsied



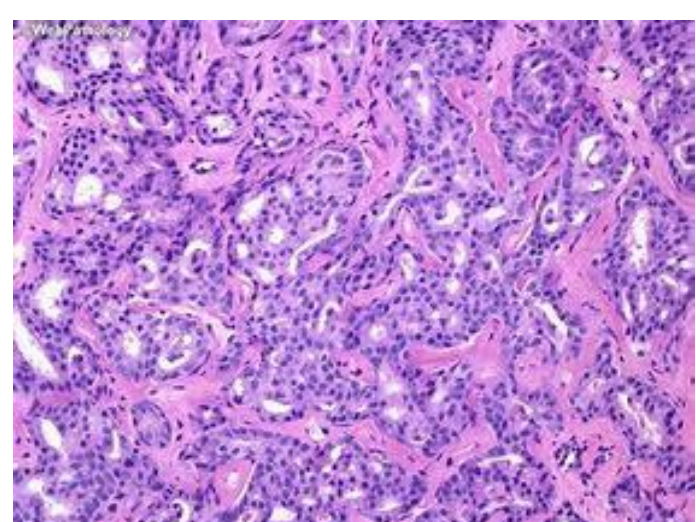
TRUS image



N cancers in anterior lobe only



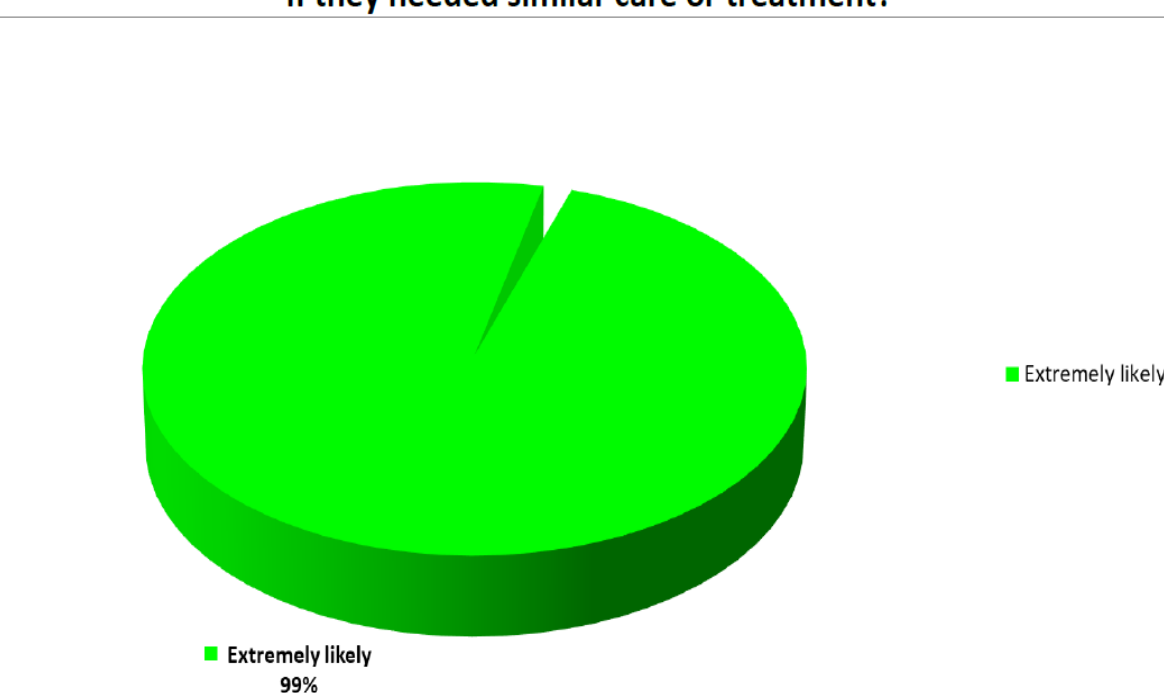
Gleason 4+4 histology



Biopsy gun



How likely are you to recommend our service to friends and family if they needed similar care or treatment?



Despite increased pain overall service is still highly rated by patients

Results

A total of 374 patients were included in the audit, with 454 sample pots taken including right, left and anterior lobes.

A total of 221 patients had the anterior lobe biopsied based on PSAD <0.15:

141 pots were found to be abnormal (64%)
80 pots were found to be benign (36%)

Of these patients' cancer was found in 10 cases in the anterior lobe ONLY (5%)

Of the 10 cases with anterior lobe only

4 had a score of 3+3 (40%)
5 had a score of 3 + 4 (50%)
1 had a score of 4 + 5 (10%)

Overall, of the patients who had anterior lobe Bx taken, 27% of patients were found to have clinically significant cancer in the anterior lobe.

Conclusion

This initial study has demonstrated that using an adapted extended core TRUS Bx technique in men with a PSAd > 0.15 increases the yield of clinically significant cancer.

Recommendations

Continued research with larger samples to allow for generalisation to a wider population.