Research Note

Early detection of prostate cancer or prostate cancer screening and reduction in the disease related morbidity and mortality in 50-75-year-old men

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Introduction

Prostate cancer is the commonest male cancer and the second most common cause of cancer death in males in the U.K after lung cancer. 48500 men are diagnosed with Prostate cancer each year in the U.K. Prostate cancer is curable and the prognosis depends on the initial stage at the diagnosis, the grade cancer, and the presenting PSA. Prostate Cancer prognosis is poor in high-grade cancer, in high-grade cancer, locally advanced T3, Lymph node(N1) positive, and metastatic (M1) disease resulting in poor 10-year overall survival. There is no screening program for Prostate cancer in the U.K. This study was performed to see if early detection i.e when the PSA is still under 10 or normal, can reduce the risk of finding High Grade, locally advanced and metastatic prostate cancer and therefore reduce the treatment and disease-related morbidity and mortality.

Method

Data was obtained after permission from the research office. Detailed study of the clinical notes, biopsies, PSA, MRI scan, bone scan, and CT scan reports available on the hospital central database was done for the patients who underwent their first prostate biopsies between January 2012 till December 2017. The patients 50 -70years of age, diagnosed with prostate cancer were divided into Group A(PSA<10) and Group B (PSA>10) based on PSA on presentation. Two other groups were added group C for patients in the 70–75years age group with PSA<10 and group D with PSA>10 in this age group. A further search of the literature was also done.

Result

1043 patients in the 50 till 70 years age group underwent prostate biopsies. 52.25% (545/1043) were found to have prostate cancer. Of these 57.7% (315/545) were in Group A, while 42.2% (230/545) were in Group B. In the age group, 70-75 years total of 306 patients underwent Prostate biopsies. 66.99% (205/306) were diagnosed with Prostate Cancer. Of these 40% (82/205) were in Group C (PSA<10) and 60% (123/205) were in Group D (PSA>10) Of those who were found to have prostate cancer, 17.4% (55/315) in group A and 51.3% (118/230) in group B had High Grade (GG4 and GG5) cancer. Metastatic disease was identified in 0.86% (9/315) in group A and 4.21% (44/230) in group B. Extra prostatic Locally advanced disease (T3A – N1) was identified in 4.6% (48/315) and 7.57% (79/230) in A

and B respectively. 49.13% (113/230) from Group B had PSA > 20 at the presentation.

29.2% (24/82) and 51.2% (63/123) patients had High Grade (GG4 and GG5) cancer in groups C and D respectively. Metastatic disease was identified in none (0/82) in Group C while 21.13% (26/123) in Group D. Extra prostatic locally advanced disease (T3A-N1) was identified in 17.07% (14/82) and 24.03% (30/123) in Group C and D respectively. 53.65% (66/123) presented in Group D with PSA > 20

Conclusion

Early Detection or of Prostate cancer screening in the 50 -70years age group can reduce the risk of finding High Grade/ High Risk, locally advanced, and Metastatic Prostate Cancer and therefore directly reduces the treatment and disease-related morbidity and mortality and results in improvement of QOL. Early detection policy in 60-70 years can also have an impact on reducing the risk of finding locally advanced and metastatic prostate cancer in patients in the 70–75years age group. Also, costs related to additional investigations and adjuvant/salvage, or palliative treatment can be significantly reduced.

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Conflicts of interest

The authors declare having no conflict of interest.

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