

Low Consultation Rates with A Radiation Oncologist Prior To Prostatectomy in Australia – Implications for Multidisciplinary Care

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ABSTRACT

Objectives: To determine what proportion of Australian patients are reviewed by a radiation oncologist prior to radical prostatectomy for presumed localised prostate cancer.

Patients and Methods: Medicare Benefits Schedule item number data was used to identify all patients who underwent radical prostatectomy in Australia from January 1, 2014 to January 1, 2016. Demographic information and further MBS data was abstracted from an additional six months preceding the study period to determine whether patients had a previous prostate biopsy or transurethral resection of the prostate (TURP), and consultation with either a urologist, radiation oncologist or both pre-prostatectomy.

Results: 11,527 patients had a radical prostatectomy in Australia during the study period, of whom 88% (n=10,144) had a prostate biopsy or TURP performed during the preceding six months. Only 9.38% (n=1,081) of all patients were seen by a radiation oncologist prior to radical prostatectomy. Men aged 70-79 were reviewed at a slightly higher rate (13.7%). By comparison, patients were seen by a Urologist on average 4 times (± 2.07) prior to prostatectomy, with surgery following 37.21 (± 36.48) days after the most recent consultation.

Conclusion: Fewer than ten percent of men have a consultation with a radiation oncologist prior to undergoing a prostatectomy for presumed clinically localised prostate cancer. To enable patients to make an informed choice regarding potentially oncologically equivalent treatment modalities, methods to increase involvement of the radiation oncologist in the management pathway should be further evaluated.

Keywords

Prostate cancer, Radiation oncology, Radical prostatectomy.

Introduction

Despite the indolent natural history of prostate cancer in many patients diagnosed with localised disease, it remains the second most common cause of death from cancer in Australian men [1]. Timely diagnosis and definitive treatment of clinically significant prostate cancer is essential to optimising long-term disease control. The majority of men are suitable for a number of different treatment options, and it is the managing clinician's responsibility to ensure the patient has been adequately counselled in order make an informed choice.

Clinically localised prostate cancer can be treated effectively with either radical prostatectomy or radiotherapy (including brachytherapy or external beam radiation, with or without adjuvant androgen deprivation therapy), with both approaches achieving good, largely equivalent, oncological outcomes [2-4]. However, the two modalities differ significantly in how they are delivered (day-case brachytherapy versus short hospital stay prostatectomy versus up to seven weeks of external beam radiation), and in their side effect profiles. Recent systematic reviews of validated patient-reported quality of life outcome measures comparing different primary treatment modalities for localised prostate cancer conclude that surgical intervention had a more significant impact on urinary incontinence and erectile dysfunction, whereas EBRT

was associated with more significant bowel dysfunction. These outcomes persisted up to six years after intervention [5-7]. Given these observations, it is widely held that treatment selection should be patient driven, taking into account not only their personal circumstances and locally resources available, but also the relative weights the individual places on potential long term morbidity.

To facilitate optimal decision making with the patient, and ensure the pros and cons of each treatment options are fully discussed, the National Health and Medical Research Council (NHMRC) recommends that a multi-disciplinary team approach is implemented. As further clarified in the “Optimal care pathway for men with prostate cancer” released by the Australian Cancer Council in 2016, the patient should have a coordinating clinician (often the urologist for localised disease), but a radiation oncologist should always be consulted as part of multi-disciplinary decision making [8].

The primary aim of this study was to determine what proportion of Australian patients are currently reviewed by a radiation oncologist prior to proceeding with radical prostatectomy. The secondary aim was to evaluate any factors that may influence this.

Patients and Methods

After gaining local ethics approval and from the Health Medical Information Section of the Department of Human Services, a retrospective enquiry was undertaken including all Australian patients who underwent a radical prostatectomy between 01/01/2014 and 01/01/2016. Patients were identified by the Health and Compliance Section of the Department of Human Services based on access to Medicare Benefits Schedule (MBS) item numbers for radical prostatectomy (irrespective of surgical approach, MBS 37210 or 37211) during the study period. This system covers both the public and private sectors, although physician consultations in the public sector are not individually coded.

Demographic information including year of birth was collated. For the six months preceding radical prostatectomy MBS item codes 104, 105, 37218, 37203, 37210 and 37211 were searched for, with date of service and registered specialty code documented. This demonstrated whether a patient had a formal urology or radiation oncology consultation as well as whether patients had a prostate biopsy, transurethral resection of the prostate (TURP) within six months of prostatectomy.

Data was stored in a confidential database with de-identification of all patients. Descriptive statistics were used to report study findings, with data expressed as mean (\pm standard deviation) unless otherwise specified.

Results

A total of 11,527 patients had a radical prostatectomy in Australia during the study period. Of these, 88% (n = 10,144) had a prostate biopsy or TURP recorded during the preceding six months. The mean time from TURP or biopsy to radical prostatectomy was 78.7 days (\pm 68.8). Mean patient age at time of radical prostatectomy

was 64.5 years (\pm 7.1 years).

Only 9.38% (n=1,081) of all patients were recorded as being reviewed by a radiation oncologist prior to radical prostatectomy. The rate of radiation oncology review was consistent across the two-year study period (Figure 1). The proportion seen by a radiation oncologist was relatively consistent (approximately 9%) across all age groups (Table 1), although a slightly higher proportion were reviewed (13.7%) in men aged 70-79. By comparison, patients were seen by a urologist on average four times (\pm 2.07) prior to prostatectomy, with surgery following 37.21 (\pm 36.48) days after the most recent consultation.

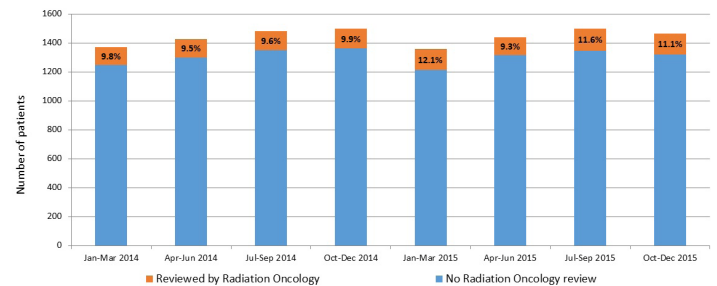


Figure 1: Proportion of patients seen by a radiation oncologist prior to radical prostatectomy.

Age	No Rad Onc review	Rad Onc review	Total RP	Percentage reviewed by Rad Onc
< 40	8	0	8	0.0%
40-49	299	29	328	9.7%
50-59	2164	174	2338	8.0%
60-69	5506	543	6049	9.9%
70-79	2396	328	2724	13.7%
> 80	75	7	82	9.3%

Table 1: Proportion of patients seen by a radiation oncologist prior to radical prostatectomy stratified by age.

Discussion

This study suggests that only a small proportion of Australian men are seen by a radiation oncologist for formal consultation prior to undergoing a radical prostatectomy. Conversely, patients were seen by a urologist multiple times in the six months preceding surgery.

There are a number of confounding factors to acknowledge in the collection of Medicare data. Consultations are not always individually coded in the public hospital system; it is probable that the rate of radiation oncology review is under-represented in this data. However, 98% of all patients are specifically coded as having seen a urologist and Victorian data demonstrates that over 80% of patients undergo prostatectomy within the private system [9], indicating that the main findings of this study are still worth consideration.

In referring to an oncology department in a public hospital, the head of department may be a medical oncologist and billing may

not be coded as a radiation oncologist consultation. In our cohort, only four patients were consulted by medical oncology during the study period.

This data does not capture patients discussed in a multidisciplinary team (MDT) meeting and subsequently determined not appropriate for radiation therapy. While MDT discussion of prostate cancer cases is an important step to ensure that both patient and disease factors are evaluated from multiple points of view, this is still inferior to direct clinical review in terms of allowing the patient to have the advantages and disadvantages of their treatment options explained in a non-biased way. Additionally, this study suggests that patients who may not have been considered good surgical candidates (i.e. older patients) were more likely to be referred to a radiation oncologist than younger patients, with highest rates amongst those aged 70-79. Urologists may feel that the input of a radiation oncologist at a multidisciplinary team (MDT) meeting is sufficient, and only refer patients that they then deem more suitable for radiation therapy. Selective referral is not consistent with guidelines for best practice, and may limit the patient's ability to give informed consent.

Diagnosis and, frequently, management of prostate cancer has traditionally been the domain of the urologist, and referral patterns still reflect this pathway [10]. Therefore, it is unsurprising that patients who ultimately undergo a prostatectomy have seen a surgeon in the preceding months. As pathways for prostate cancer diagnosis and management evolve, it is conceivable that prostate cancer care may bypass the urologist. For example, a general practitioner referral to a radiologist for magnetic resonance imaging guided biopsy may result in a referral to the radiation oncologist directly. While this may seem unlikely in the short term, it demonstrates the need for a comprehensive multidisciplinary management pathway to be developed and utilised in all prostate cancer cases to ensure that, regardless of the path to diagnosis, patients are counselled directly by both urologists and radiation oncologists prior to embarking on treatment.

Other potential barriers to radiation oncology review may include regional location. In anecdotal reports from rural-based urologists, patients may express a preference to receive treatment closer to home, and may be unwilling to travel to a larger centre with radiation oncologists on staff. Neither our data or any pre-existing studies are available to determine whether patients in non-metropolitan cities have lower rates of review by a radiation oncologist or higher rates of radical prostatectomy, although recent data from the Australian Institute of Health and Welfare indicates significant regional variation in both incidence and mortality across the country [11].

The fee-for-service environment in the private sector may incentivise clinicians to offer active treatment for both radiation oncologists and urologists. An interesting study from Canada inferred that profiteering is likely taking place. In response to significant government remuneration for radiation therapy, there was a dramatic increase in rates of radiation treatment being

offered by urologists when they were able to own and operate the radiation equipment themselves [12]. A protocolised approach to the decision-making process for men with localised prostate cancer may negate some of this practice.

With a significant focus on achieving a good oncological outcome for these patients, it is important to remember the impact that decisional regret has on quality of life. In a group of 96 respondents, 16% expressed decisional regret which was associated with poorer health related quality of life scores [13]. A study of 2,306 men in the 1990's demonstrated that at two years after primary treatment urinary incontinence and sexual bother are associated with poorer quality of life [14]. While there was no difference between treatment modalities, this is likely due to the narrow scope of side effects interrogated. The survey did not question for irritative urinary or bowel symptoms. The side effects of treatment impact on a patient's quality of life, and a thorough education about the differential adverse outcomes associated with the treatment options available may decrease decisional regret and mitigate this to some degree [15].

The MBS data set demonstrates that 12% of patients did not have a diagnostic procedure in the six months preceding surgery. Possible explanations for this include the procedure being performed more than six months before surgery, incorrect coding of the procedure, diagnosis overseas, or the decision to proceed to radical therapy in a patient on Active Surveillance guided by patient anxiety, progression on magnetic resonance imaging or a rising PSA.

Future research to evaluate what proportion of patients who receive radical radiotherapy for prostate cancer see a urologist prior would provide additional insights into current local referral and practice patterns.

In conclusion, only a minority of patients in Australia are seen by a radiation oncologist prior to undergoing radical prostatectomy for clinically localised prostate cancer. In order to provide truly informed consent, and choose the management option that best aligns with the individual patients' priorities and preferences, the patient should be seen by both a urologist and radiation oncologist to present their treatment options in an equal way. This is not currently occurring in Australia. Further research into the possible reasons underlying this and ways to increase inclusion of radiation oncologists in the management pathway for patients with localised prostate cancer is warranted.

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