Prostate cancer multidisciplinary care: improving patient outcomes

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Multidisciplinary care should serve to improve communication between specialists and ensure that prostate cancer patients receive optimal care based on best practice and evidence-based guidelines. Here, the authors describe the implementation of this model in a prostate cancer-specific clinic in Australia.

In Australia, prostate cancer is the most common malignancy in males after skin cancer, and the fourth most common cause of death in men overall.1 The management of advanced prostate cancer has recently changed dramatically, with the development of new systemic agents, technological advances in medical imaging and radiation delivery, and targeted treatment of oligometastatic disease.2 Furthermore, it is evident that some patients with low-volume metastatic disease will benefit from radical treatment of the primary and those with high-volume metastatic disease may profit from early administration of chemotherapy.

It is well recognised that multidisciplinary care (MDC), an integrated team-based approach to cancer care, can lead to improved decision-making and better survival outcomes.3–5 Patients with prostate cancer, now more than ever, stand to benefit from a cohesive, multidisciplinary approach in treating their disease.

PROSTATE CANCER-SPECIFIC MULTIDISCIPLINARY CARE

Australia has been slow to adopt the MDC concept, with only one-third of hospitals reporting a MDC team and core team members in regular attendance at fewer than 1% of meetings.6 Furthermore, although most patients with prostate cancer in Australia and New Zealand are treated in large urban centers, many smaller hospitals lack the experience and resources to offer a coordinated multidisciplinary approach to treating prostate cancer.

Box 1. Principles of multidisciplinary care

- A team approach, involving core disciplines integral to the provision of good care, with input from other specialties as required
- Communication among team members regarding treatment planning
- Access to the full therapeutic range for all patients regardless of geographical remoteness or size of institution
- Provision of care in accord with nationally agreed standards
- Involvement of patients in decisions about their care

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cancer in Australia are managed in the private setting, a much lower proportion of private practices reported an established MDC team than public hospitals.

There are impediments to the widespread implementation of MDC, but the National Breast Cancer Centre developed five principles for the implementation of MDC in Australia (Box 1) and Cancer Australia has published specific recommendations to overcome these barriers.3,4 MDC should serve to improve co-ordination and communication between specialists and ensure that patients receive optimal care based on best practice and evidence-based guidelines. Access to multiple specialists across different disciplines should also ensure that patients are more likely to be considered for clinical trials than if they were seen by individuals.

There were more than 21000 new diagnoses of prostate cancer in Australia in 2011, with the incidence expected to reach more than 25000 by 2020.1 More importantly, more than 3000 men will die as a result of prostate cancer each year. In spite of these statistics, the evolution of prostate cancer MDC has lagged behind that of other malignancies, particularly breast cancer. In Australia, breast cancer multidisciplinary clinics are well established and unlike many uro-oncology clinics, they focus purely on one malignancy. Although breast cancer is common, both incidence and cancer-specific mortality are lower than that seen in prostate cancer.1

STREAMLINING MULTIDISCIPLINARY CARE

The discussion of all new diagnoses of a given malignancy can be a significant time constraint on multidisciplinary meetings (MDM) and is perhaps one of the barriers to wholesale adoption of MDC in the private sector. Of note, patients with organ-confined prostate cancer enjoy 10-year cancer-specific survival that approaches 100% and one study showed no survival benefit to these patients when discussed in an MDC forum.5

In order to maximise the benefit of the multidisciplinary environment while minimising the burden on clinical time, we have chosen to focus on patients with locally advanced and metastatic disease, which we collectively consider ‘complex prostate cancer’. There is evidence that those with locally advanced disease experience better survival outcomes when managed by an MDC team and it would be expected that those with metastatic and castrate-resistant disease would similarly benefit from this environment.6 Patients with metastatic or castrate-resistant prostate cancer require input across multiple specialties including nursing and allied health, are most likely to be eligible for recruitment to trials and have management options that are continually evolving.5

ESTABLISHING A PROSTATE CANCER MULTIDISCIPLINARY TEAM

We have recently established a weekly open-access multidisciplinary complex prostate cancer clinic and associated MDM to evaluate and treat both public and private patients. The meeting and clinic is held at the Epworth Prostate Centre, a not-for-profit private hospital with affiliated basic science and clinical and allied health research programmes. Patients are bulk billed for consultations and so incur no out-of-pocket costs.

The core team is comprised of attending specialists, including urologists, medical oncologists and radiation oncologists, all of whom have uro-oncology fellowship training and experience. The fellows and a research team attend all meetings. The core team also includes prostate nurse specialists, a GP with a prostate cancer-based practice, a psychologist and a data manager. In all cases presented for discussion, pathology and radiology are reviewed by a dedicated uropathologist and genitourinary radiologist.

In addition to the core members, clinical GPs are invited to attend the MDM discussion of their case, with facilities for phone conferencing if required. Other specialists not affiliated with the hospital are welcome to discuss their patients in an MDC setting and they then maintain and continue care of those patients. The clinical director has a sub-specialist prostate cancer practice and an established background in both prostate cancer clinical care and prostate cancer research.

BENEFITS OF MULTIDISCIPLINARY CARE

Through the clinic, patients can access multiparametric magnetic resonance imaging for local and metastatic disease, fluorocholine and prostate-specific membrane antigen positron emission tomography as well as conventional CT, single photon emission CT and conventional whole-body bone scan. The diagnosis of oligometastatic prostate cancer with the aid of these modalities opens the new window for stereotactic radiotherapy and surgical trials run out of the centre.

The broad affiliations of our team members ensure ease of referral and consideration of all eligible trials

Moreover, in the past 5 years there has been a steady increase in the number and complexity of medical therapy options for patients with higher-volume metastatic disease in both the castrate-resistant and hormone-naïve state. Abiraterone, enzalutamide, cabazitaxel and radium-223 have all been demonstrated to improve survival in men with advanced prostate cancer in randomised controlled trials;
more recently, docetaxel administered concurrently with androgen deprivation therapy (ADT) at diagnosis of high-volume metastatic disease has been shown to improve survival by up to 17 months.\textsuperscript{10-12}

Since the inception of the clinic, 53\% of all patients reviewed have been recruited to, or identified as suitable for recruitment to a number of different trials. This has included not only trials co-ordinated from the Epworth Prostate Centre, but also those co-ordinated by other hospital networks. Importantly, the broad affiliations of our team members, which cover multiple hospital networks throughout Melbourne and therefore multiple trial sites, ensure ease of referral and consideration of all eligible trials.

**BEYOND SPECIALIST MEDICAL ONCOLOGY AND UROLOGY CARE**

The systemic side-effects of androgen deprivation, such as osteopenia and osteoporosis, cardiovascular disease, weight gain and emotional or cognitive disturbance are an important consideration in managing advanced prostate cancer. Most of these patients also suffer from multiple medical comorbidities and it is essential that each patient’s overall wellbeing is considered in the context of his prostate cancer and the systemic treatments he receives.

In addition, men with advanced prostate cancer often report a significant negative impact on quality of life, which may subsequently lead to high levels of psychological distress.\textsuperscript{13,14} The prevalence of depression and anxiety appears to vary according to the treatment received and men treated with ADT in particular may experience PSA-testing anxiety, emotional disturbance associated with existential issues, uncertainty for the future and fear of death.\textsuperscript{15} Complicating these emotional responses are the physical and cognitive sequelae of androgen deprivation, which can further impact on the patient’s emotional wellbeing.\textsuperscript{13}

**ASSESSING OUTCOMES**

Without specifically designed, prospective trials evaluating the impact of MDC, it is difficult to assess the extent of oncologic benefit from this type of clinic. Such a trial would require the recruitment of thousands of patients over many years and would incur significant cost. However, there are criteria beyond oncologic outcomes that can be assessed in this setting. Prostate cancer patients report high levels of unmet needs and we have established a study assessing what these previously undiagnosed or unmet needs are and how they may be addressed. This study will also assess a wide range of additional outcomes such as recruitment to clinical trials, quality of life, satisfaction with quality of care and general medical and emotional wellbeing.

**CONCLUSION**

Although MDC has been shown to improve oncologic and survival outcomes for patients with prostate cancer, the implementation of this model has been poor in Australia, particularly in the private setting. We should be inspired by the success of our colleagues in the management of breast cancer and aim to implement prostate cancer-specific multidisciplinary clinics in both public and private practice. We hope that the establishment of the complex prostate cancer clinic at the Epworth Prostate Centre will herald the beginning of widespread adoption of prostate cancer-specific multidisciplinary clinics in Australia.

**Declarations of interest:** none declared.

**REFERENCES**


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