

A Case of Rectourethral Fistula; Patient Outcomes with Brachytherapy Vs Robotic Assisted Laparoscopic Prostatectomy (RALP) for Localised Prostate Cancer

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Abstract:- Prostate cancer is the second commonest malignancy in men worldwide and disease incidence increases with increasing age. Prognosis is affected by different variables but it is well established that Prostate cancer is a slow growing/spreading malignancy and thus resulting in a high prevalence. Brachytherapy, permanent radioactive seed implantation, remains an invaluable therapy for organ confined disease with high disease free survival (66-79%). When compared with radical prostatectomy, brachytherapy is perceived as a safer option for co-morbid patients, that have a higher anaesthetic risk. Having said that, rectourethral fistula as a complication of radiation proctitis is a well established risk that can result in significant morbidity and negatively impact in patients quality of life.

Keywords:- Morbidity, Rectourethral Fistula, Catheter, Brachytherapy, Prostate Cancer.

I. INTRODUCTION

Prostatic cancer is the second most common cancer diagnosis in men worldwide [1]. Though incidence and mortality vary worldwide, a correlation with increasing age has been established [2]. The estimated mean age at diagnosis is 66 years of age and the incidence is higher in African-American men [1].

Brachytherapy is the oldest method of delivering radiation to the prostate gland, in individuals with organ confined disease [3]. Though external beam radiotherapy was developed several decades later; brachytherapy alone, or in combination with external beam radiotherapy or chemotherapy, remains a treatment method perceived as the least disruptive for patients and has disease free rates comparable to radical prostatectomies [3].

Good disease free rates, in conjunction with the procedure being minimally invasive and the standard method of anaesthesia being that of spinal, makes brachytherapy the preferred option for co-morbid patients [4-7]. Having said that, complications of radiotherapy can present even years later, with radiation proctitis being a relatively common one [8]. This case report is focussing on brachytherapy related morbidity and subsequently impact on patients' quality of

life, as a result of a rectourethral fistula on the background of radiation proctitis.

II. CASE PRESENTATION

An 81-year-old male patient, with a background of brachytherapy in 2002 for prostate cancer and hypertension, presented to hospital overnight with LUTs and fever. Following clinical assessment, he was found to be in acute urinary retention and was catheterised and discharged home with oral antibiotics and an appointment for a TWOC. The patient unfortunately represented to hospital prior to TWOC appointment, with a blocked catheter and catheter was changed and discharged home again. A few days later patient re-attended hospital pyrexial again, with the catheter bypassing and minimal output in catheter bag. However, this time the patient was complaining of an 'unpleasant aroma' associated with his catheter.

A rectourethral fistula was confirmed on a CT urogram and the patient was referred to the colorectal team for a consideration of diversion surgery. After an inpatient assessment by the Colorectal team the patient opted for a defunctioning colostomy and a suprapubic catheter operation, to allow the fistula to heal. An outpatient flexible sigmoidoscopy revealed radiation proctitis with no evidence of rectal malignancy. He was subsequently discharged home with a urethral catheter, awaiting a date for an elective operation. Whilst awaiting for his operation, he attended hospital several times with a blocked catheter and in some occasions underwent re-catheterisation under vision. His last presentation to hospital resulted in an admission for intravenous antibiotics and fluids, to treat urosepsis and AKI.

Unfortunately, during this attendance he became profoundly septic and delirious and though intravenous antibiotics were escalated after discussion with Microbiology, he never recovered and passed away.

Below is a Figure with patient's CT at the time of diagnosis of rectourethral fistula. In this sagittal view image, the catheter balloon is positioned in the rectum and there is contrast seen in the rectum and sigmoid colon.

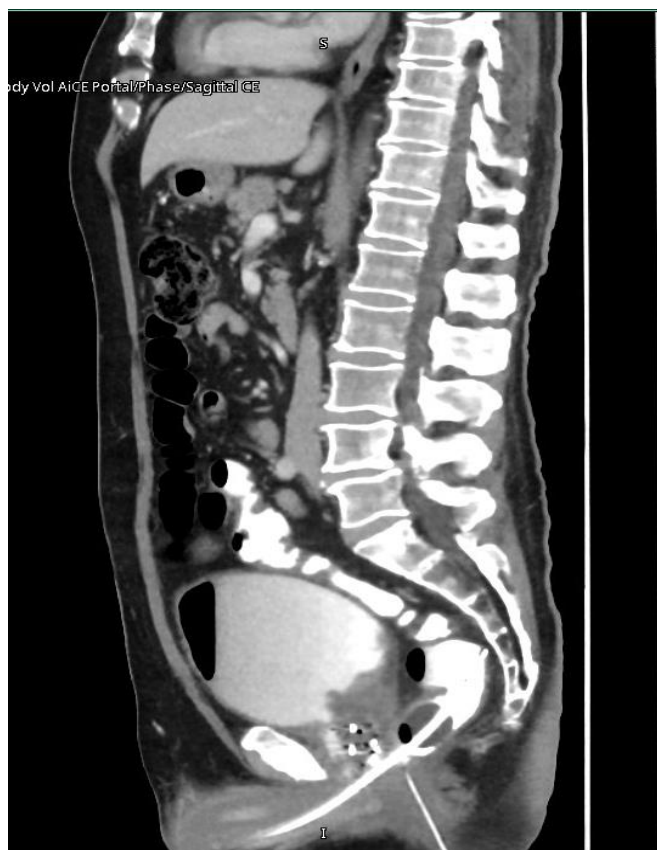


Fig 1 Sagittal view Image from Patient's CT.

III. DISCUSSION

Brachytherapy remains an invaluable tool in the treatment of localised prostatic malignancy, since its development in early 1900s [8]. Though it is a therapy widely used, across the globe, there have not been any randomized controlled trials comparing brachytherapy (with or without external beam radiotherapy) to radical prostatectomy, with previous failed trials [9].

To date, the uncertainty of the feasibility of a randomized control trial comparing the aforementioned therapies remains [9]. This makes patients and clinicians decision more difficult, which again emphasises the need for patients to be made aware about associated risks with each treatment modality. It would be interesting to see whether further randomised studies can be performed in the future and whether the outcome of such a study would provide congruent evidence to influence future management of organ confined prostate cancer.

Having said that, there is enough evidence in the literature to favour robotic assisted laparoscopic prostatectomy to the traditional open prostatectomy (RALP) [10], when the decision is taken to proceed with a prostatectomy and not brachytherapy. A significant reduction in length of hospital stay and post-operative complications is observed with RALP [10].

A comparative analysis in 2017 comparing brachytherapy to RALP, concluded that brachytherapy was associated with less risk for urinary incontinence and erectile

dysfunction, when compared to RALP. However, this effect seemed to cancel out after 6 months, with patients having RALP achieving similar outcomes with those having brachytherapy. Additionally, no difference was observed in the quality of life of patients having brachytherapy vs RALP [10].

Finally, despite rectourethral fistulas being uncommon, they remain a well known complication of radiation therapy and are most commonly seen in patients having brachytherapy and subsequently a rectal biopsy or haemorrhoidectomy [11]. Rectourethral fistulas unfortunately can cause significant burden to patients.

IV. CONCLUSION

To date, there is no evidence in the literature to favour radiation therapy over prostatectomy, based on patient outcomes. The need for further studies to compare both therapies is apparent. Standardized validated and internationally accepted questionnaires such as ICIQ, IIEF, IPSS performed before and after therapy, can aid in concluding in a therapy consistent with better outcomes.

Though rectourethral fistula is a fairly uncommon complication, it is a complication linked with significant morbidity and it is therefore, something that should never looked lightly when counselling patients for organ confined prostate cancer treatment.

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