

## ORIGINAL ARTICLE

### Complications of Laparoscopic radical prostatectomy- A clinical study

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#### ABSTRACT:

**Background:** Laparoscopic radical prostatectomy (LRP) is a demanding procedure that requires surgical skill. The present study was conducted to assess complications of laparoscopic prostatectomy. **Materials & Methods:** The present study was conducted on 84 Laparoscopic radical prostatectomy surgeries performed in the department. A through clinical examination was performed. A single surgeon performed all of the procedures. Symptoms and complications were recorded in all patients. **Results:** Pathology stage PT1 was seen in 3, PT2 in 45 and PT3 in 35. Positive margins PT2 was seen in 14, PT3 in 40 and overall in 30. Pathology gleason score <6 was seen in 40, 7 in 34 and >8 in 10. The difference was significant (P< 0.05). Common complications were rectal injury in 2, ureter injury in 1, bladder neck contracture in 4, ileus in 3, deep vein thrombosis in 1, wound infection in 1, blood transfusion in 5 and incision hernia in 2. The difference was significant (P< 0.05). **Conclusion:** Authors found that common complications were rectal injury, ureter injury, bladder neck contracture, ileus, deep vein thrombosis, wound infection, blood transfusion and incision hernia.

**Key words:** Laparoscopic radical prostatectomy, Deep vein thrombosis, Ureter injury

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#### INTRODUCTION

Laparoscopic radical prostatectomy (LRP) is a demanding procedure that requires surgical skill, a long learning curve and significant laparoscopic expertise.<sup>1</sup> Since November 2005, laparoscopic radical prostatectomy has been performed at our institution. Considering the current interest in this technique, we have chosen to share our difficulties and complications with this procedure, hopefully to reduce morbidity for the patients of other interested urological teams.<sup>2</sup>

Prostate cancer is the most commonly diagnosed non skin cancer and the second leading cause of cancer related death in men in the United States. The incidence of prostate cancer rose dramatically in the late 1980s, reflecting improvements in detection through the widespread use of prostate-specific antigen (PSA) testing.<sup>3</sup> As a result, prostate cancer is now a frequent diagnosis in younger and healthier men, with organ-confined disease, who desire to undergo definitive treatment, while maintaining their current quality of life. Because a myriad of treatment options is currently available, however, decision making for the patient can be confusing and stressful. Even among surgical options, the patient needs to decide whether to have open, laparoscopic or robot-assisted surgery.<sup>4</sup>

Surgical treatment of PCa is radical prostatectomy (RP), which has been performed for more than 100 years and is considered a gold standard for the treatment of PCa, owing to the realization that hormone therapy and chemotherapy are never curative, as not all cancer cells can be eradicated persistently by radiation or other physical forms of energy, even if the cancer is organ confined PC.<sup>5</sup> The present study was conducted to assess complications of laparoscopic prostatectomy.

#### MATERIALS & METHODS

The present study was conducted in the department of General surgery. It comprised of 84 prostatectomy surgeries performed in the department. All were informed regarding the study and written consent was obtained. Ethical clearance was obtained prior to the study.

General information such as name, age, gender etc. was recorded. A through clinical examination was performed. A single surgeon performed all of the procedures. Symptoms and complications were recorded in all patients. Results were tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.

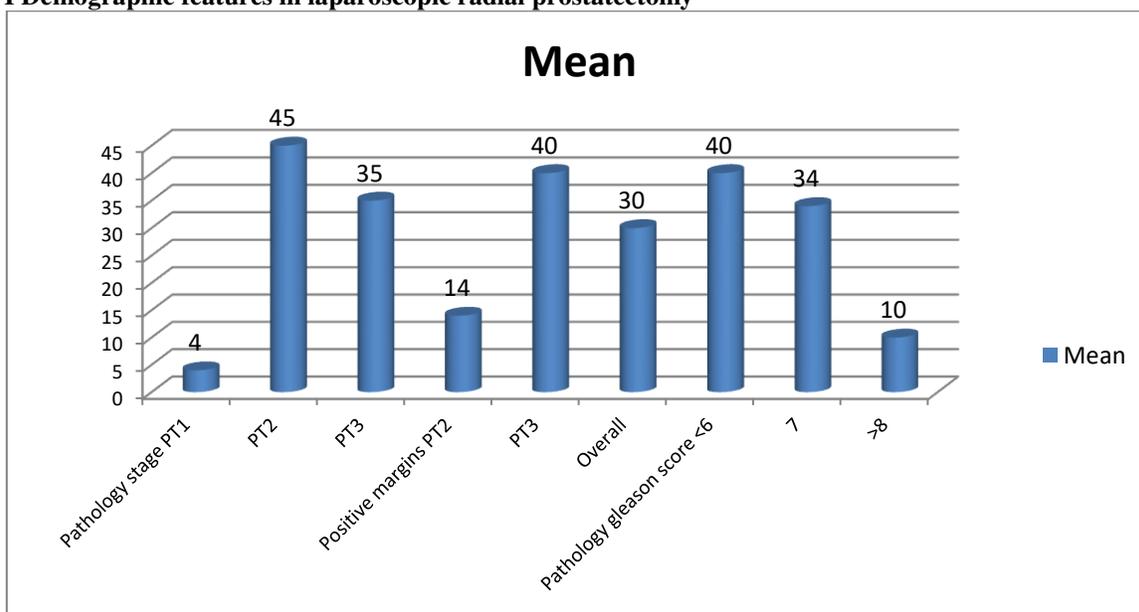
**RESULTS**

**Table I Demographic features in laparoscopic radial prostatectomy**

Parameters	Mean	P value
Pathology stage PT1	4	0.01
PT2	45	
PT3	35	
Positive margins PT2	14	0.01
PT3	40	
Overall	30	
Pathology gleason score <6	40	0.02
7	34	
>8	10	

Table I, graph I shows that Pathology stage PT1 was seen in 3, PT2 in 45 and PT3 in 35. Positive margins PT2 was seen in 14, PT3 in 40 and overall in 30. Pathology gleason score <6 was seen in 40, 7 in 34 and >8 in 10. The difference was significant (P< 0.05).

**Graph I Demographic features in laparoscopic radial prostatectomy**

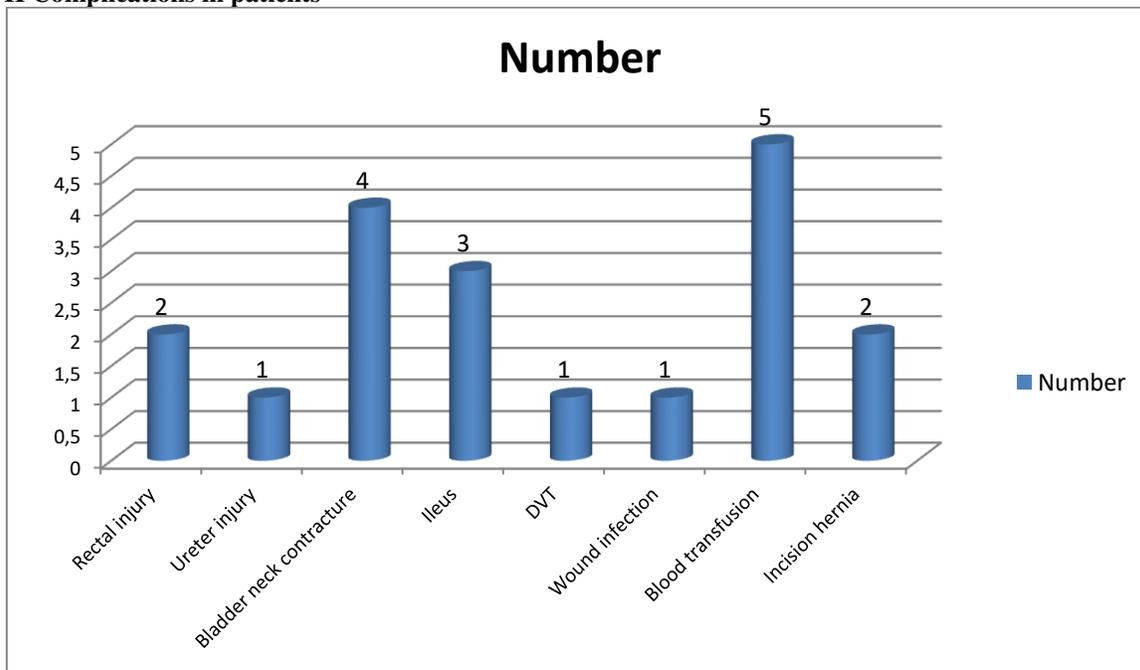


**Table II Complications in patients**

Complications	Number	P value
Rectal injury	2	0.05
Ureter injury	1	
Bladder neck contracture	4	
Ileus	3	
DVT	1	
Wound infection	1	
Blood transfusion	5	
Incision hernia	2	

Table II, graph I shows that common complications were rectal injury in 2, ureter injury in 1, bladder neck contracture in 4, ileus in 3, deep vein thrombosis in 1, wound infection in 1, blood transfusion in 5 and incision hernia in 2. The difference was significant (P< 0.05).

**Graph II Complications in patients**



**DISCUSSION**

Walsh and Donker first introduced the anatomic nerve-sparing technique for retropubic radical prostatectomy (RRP), it has become the gold standard and most widespread treatment for patients with clinically localized prostate cancer, providing excellent cancer control in most patients with clinically localized disease. In an effort to further decrease the morbidity of RRP, a minimally invasive surgical approach to managing prostate cancer was first described by Schuessler and colleagues.<sup>6</sup> The initial experience with laparoscopic radical prostatectomy (LRP), however, was discouraging, and the authors concluded that the procedure was extremely difficult, associated with a steep learning curve, and offered no advantages over RRP.<sup>7</sup> Subsequently, larger LRP series were reported showing feasibility of the procedure and results comparable to those of the open surgical approach. Despite this, the technical demands of the surgery and the protracted learning curve have prevented the widespread adoption of LRP by most urologic surgeons.<sup>8</sup> The present study was conducted to assess complications of laparoscopic prostatectomy.

In this study, Pathology stage PT1 was seen in 3, PT2 in 45 and PT3 in 35. Positive margins PT2 was seen in 14, PT3 in 40 and overall in 30. Pathology gleason score <6 was seen in 40, 7 in 34 and >8 in 10. Juan et al<sup>9</sup> found that the most common Grade 1 complications were anastomotic leaks (17.1%), detected on cystourethrography. They had prolonged catheterization due to persistent anastomotic leakage. Postoperative ileus (7.3%) and blood transfusion (7.3%) were the two most common Grade 2 complications. These patients with ileus were managed with maintenance of intravenous fluid, temporary restriction of oral intake

and nasogastric aspiration with resolution of the symptoms. Two patients (4.9%) presented with deep vein thrombosis (DVT) and were managed with intravenous heparin follow by oral warfarin. Two patients (4.9%) presented with upper gastrointestinal bleeding and were managed with esophagogastro duodenoscopy followed by proton pump inhibitor use. One patient (2.4%) presented with wound infection and was managed with intravenous antibiotics and local wound care. The blood transfusion rate was 7.3% (three patients). Grade 3 complications included two (4.9%) rectal injuries, one ureteral injury (2.4%) and one bladder neck contracture (2.4%). Bladder neck contracture was managed with bougie sounding, with resolution of the symptoms in the case without additional procedures. Rectal injury was identified during operation in one patient.

We found that common complications were rectal injury in 2, ureter injury in 1, bladder neck contracture in 4, ileus in 3, deep vein thrombosis in 1, wound infection in 1, blood transfusion in 5 and incision hernia in 2. Turk et al<sup>10</sup> reported and compared the incidence and management of SSIs after robot-assisted laparoscopic radical prostatectomy (RALP) and retropubic radical prostatectomy (RRP). Within the last 4 years, they identified 285 patients that underwent RRP, n=187 (66%) or RALP, n=98 (34%). A significant difference was found between RALP and RRP (2/98, 2% vs. 27/187, 14.4%; p<0.0001) as for SSIs. The time interval between the time of surgery and diagnosis of SSIs was longer in RALP relative to RRP (median 13.5 vs. 12.9 days, p=0.761). All types of SSIs could be developed after RP, however RALP patients only experienced organ or space SSIs and have a lower rate of SSIs and shorter treatment time.

## CONCLUSION

Authors found that common complications were rectal injury, ureter injury, bladder neck contracture, ileus, deep vein thrombosis, wound infection, blood transfusion and incision hernia.

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