

Effectiveness of Day-case Surgery in Urology: Single Surgeon Experience

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Objective: To evaluate the feasibility and cost effectiveness of day-case and short stay surgery in urology.

Design: Retrospective.

Setting: Urology Unit, Ibn Al Nafees hospital.

Method: A retrospective study of 300 patients operated upon at Ibn Al Nafees Hospital as day-case and short stay surgery between January 2003 and December 2005. The majority of these patients had intermediate or minor procedures, but few had major procedures.

Result: Two hundred andrological procedures, for impotence 96, infertility 76 and 28 vasectomy were done as day surgery together with all the minor urological procedures; most of these patients went home few hours after surgery. Twenty major (47%) procedures needed to stay a little longer especially in open kidney surgery.

Conclusion: Day-case and short stay surgery in urology is feasible, and cost effective especially in private setting. In this study, most patients left the hospital few hours after the surgery.

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Short stay surgery has become the preferred method of surgery to treat patients needing minor and intermediate operations. It is cost-effective and efficient when these procedures are performed as a day-case¹.

This type of surgery has become more applicable after the introduction of non invasive and minimally invasive procedures such as endoscopic and laparoscopic surgery. Procedures also done under local or regional anesthesia are suitable as day-case surgeries as long as the patient is physically fit.

In urology, minimally invasive surgeries are the back-bone of the practice for almost 30 years. With the introduction of transurethral surgery in the 20's, and the upper and lower urinary tract endoscopy in the mid 70's of the last century, urological surgery has become considerably easier for the patient and surgeon.

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Recent literature and surgical audits have discussed and researched the application and cost effectiveness of day surgery in many aspects of Urology^{2, 3}. It has become a common practice in most hospitals. Short-stay surgery has improved the patient's satisfaction with surgical management since it is easier for the patient to return to the daily routine of life and not have to deal with the cost of hospital stay⁴. This is an important factor since the cost of medical services has increased tremendously.

The aim of this study is to evaluate the effectiveness of implementing day surgery for urology patients in Bahrain through the experience of a single surgeon.

METHOD

This is a retrospective study of patients managed in the private medical center through the day-case unit. All patients were given the preoperative instructions by the surgeon and evaluated by an anesthetist preoperatively. An informed consent was obtained from all patients with explanation of the possible complications and the adverse effects that would need hospitalization. The patients were advised to arrive early morning while fasting overnight. They are operated on the same day and discharged home 4-8 hours postoperatively after they have been evaluated by an anesthetist and urologist.

The patients in this study were operated between January 2003 and December 2005. The records were reviewed for the type of surgery performed and its category, such as minor, intermediate and major. The number of hours the patients were kept postoperatively was documented with any postoperative complications which required admission to the hospital for further management.

RESULT

This study included 300 patients over a period of three years. These patients were managed surgically through the day-case unit as short stay by one single surgeon. Most of the procedures were minor and intermediate with few major ones. Two hundred patients underwent andrological procedures and 100 patients had various urological procedures.

Ninety-six patients had penile prosthesis implantation. Sixty-six patients had new implants (primary) and the remaining 30 patients had a redo implant (secondary). Eighty-six patients went home after about 4-8 hours. Nine patients had to stay overnight until 8 am the next morning and one patient stayed two days.

Seventy-six patients underwent varicocelectomy and went home within four hours of the surgery; fifty patients had bilateral and twenty-six had unilateral varicocelectomy.

Twenty-eight patients had reversal of vasectomy and were discharged from the hospital four hours after surgery.

Fifty-eight cases were minor surgeries such as check cystoscopy (26), cystoscopy and dilatation (16), D.J stint removal (8) cystoscopy and hydrostatic bladder distension (3), circumcision in children (1) and adults (1), vasectomy under general anesthesia (2), and excision of urethral warts (1). All These patients discharged from the hospital within 4 hours after surgery.

The major cases consisted of forty-two patients. Ten patients had transurethral resection of prostate and eleven patients had transurethral resection of bladder tumor. Three patients had internal urethrotomy, one patient had insertion of urolome endoprosthesis, and one had SPARC procedure for female stress urinary incontinence. Two patients had a pyelolithotomy and one patient had a pyeloplasty. Twelve patients had ureteroscopy with lithotripsy for stone fragmentation and one patient had incision of ureterocoele with stone removal. Most patients were discharged on the same day except for the transurethral resections (TUR) of bladder tumor who went home on the second day, and the TUR prostate patients left on the third day, as well as the kidney surgery cases. See table 1 & 2.

Table 1: Type of operation

Operations	Type
58 Minor	(cystoscopy, circumcision, vasectomy)
200 Intermediate	(all andrological) penile prosthesis implantation (96), varicoelectomy (76), reversal of vasectomy (28).
42 Major	TURP (10), TURB.T (11), internal urethrotomy (3), renal surgery (3), ureteroscopy (12) & others (3).

Table 2: Complication

Procedure	Complications	No. %
P. prosthesis implantation 66 1 st implant 30 Redo implant	Retention of urine	(1) 1.4%
Varicoelectomy 50 bilateral 26 unilateral	None	0%
Vasectomy reversal (28) patients	None	0%
TURP (10) patients	Pulmonary edema	(1) 10%
TURBT (11) patients	Clot retention	(1) 9%

In this study, minor complications consisted of pain, hematuria, dysuria and irritative symptoms; all were managed conservatively. Two patients had major complications after TUR. One patient had clot retention which required bladder irrigation and clot evacuation; the other patient developed pulmonary edema post-operatively which was

managed medically. One patient with penile redo implant developed acute retention of urine which was successfully managed conservatively.

DISCUSSION

Day-case surgery is becoming more popular within most medical facilities due to its cost-effectiveness and the patient's satisfaction. Its implementation worldwide in most centers and its success has triggered interest in this service. Besides that, it relieves the constant shortage and demand on hospital beds.

From the results, most urological procedures are efficiently performed as day-case surgeries with minor complications occurring, not necessitating admission. Major surgeries such as TURP and kidney surgery carry more risk of complications and require more postoperative care in the hospital.

The penile implantation procedure was successfully done as a day-case surgery in most patients (89%). Ten patients required overnight stay in the hospital.

All of the varicocelectomies and vasectomy reversal patients were discharged within four hours postoperatively without any complications and admission. These procedures can be easily performed as day-case surgery.

The minor urological procedures (58 cases) had to stay for four hours postoperatively; few had minor complications. None of the 58 patients required admission.

The intermediate and major surgeries done had major complications such as clot retention in one patient and pulmonary edema in another (0.05%). These cases required longer postoperative stay for catheter care. Forty-seven percent of the major cases (42) required admission in the hospital till the third postoperative day.

For most of the procedures done, the admission rate was very low except for the major surgeries. In comparison to the study by Crew et al., the rate was (9.7%) which was higher than the standard set by the Royal College of Surgeons of less than 3%. Because this rate is higher than usual, they suggested a more restrictive patient selection⁵. The major complications are avoidable as long as there is preoperative assessment by all faculties such as the surgeon, anesthetist and physician. As well, the procedure should be evaluated for its appropriateness as day-case.

CONCLUSION

Day-case and short stay surgery are feasible and cost effective; it is easy to apply in a planned private setting. This can be successfully applied in any major hospital, especially in the era of bed shortage and expensive medical services.

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