Gone in 24 hours: the feasibility of performing pubovaginal sling surgery with an overnight hospital stay

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Introduction: *Numerous management strategies are available for stress urinary incontinence, a significant problem for many women. The pubovaginal sling (PVS) with rectus fascia has proven efficacy with minimal morbidity. Historically, patients were admitted for an average of 4 days at the Ottawa Hospital. Since November 2001, patients have spent one night in hospital thereby cutting their total length of stay to less than 24 hours. This study assesses the feasibility of this approach.*
Materials and methods: *Ethics approval was obtained. All patient charts were reviewed retrospectively. Exclusion criteria included women booked for combined procedures or patient refusal. Each case was reviewed to determine if admission to hospital following surgery was required or if subsequent visits to emergency occurred. The Financial Department of the Ottawa Hospital provided financial information to estimate cost savings. Each patient was contacted and administered a standard satisfaction questionnaire.*
Results: *The length of stay was less than 24 hours in all but one case. One patient required a 48-hour stay secondary to post operative nausea. No patient returned to the ER for assessment following discharge. The estimated cost savings were $2709 per case. Patients tolerated having this procedure performed on a daycare basis.*
Conclusions: *PVS may be performed safely as short stay surgery with a high degree of patient satisfaction. This results in increased efficiency and improved utilization of increasingly limited healthcare resources.*

Key Words: stress urinary incontinence, pPubovaginal sling, short-stay surgery

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Introduction

Stress urinary incontinence (SUI) is defined as urinary leakage secondary to an increase in abdominal

pressure in the absence of either a detrusor contraction or a distended bladder.[1] SUI poses a significant problem for many women. Although numerous treatment strategies exist the pubovaginal sling (PVS) remains the gold standard.[2,3] Until November 2001 the typical length of stay for this procedure at the Ottawa Hospital was 4 days. In an attempt to improve efficiency and contain costs at acute care hospitals, the length of hospital stay associated with many procedures has been decreasing. Since November 2001 we have been performing all PVS cases with an expected discharge of less than 24 hours. The purpose of this study was threefold: to assess for any medical complications secondary to earlier discharge; to determine the potential cost savings through increased efficiency; and to assess the level of patient satisfaction associated with the overnight stay.

Materials and methods

Ethics approval was obtained from the Ottawa Hospital Research Ethics Board (OHREB) prior to initiating this study. All PVS cases performed at the Ottawa Hospital-Civic Campus between November 2001 and April 2002 were eligible to be included. The exclusion criteria were: patient refusal, patients having combined gynecological procedures, and those with significant co-morbid illness necessitating a longer stay. All cases were performed by the same surgeon (RGG) and in the same manner. Preoperative counseling prepared the patients for the anticipated overnight stay. Each patient underwent a PVS with autologous rectus fascia. Following the procedure the patients were transferred to the surgical day unit recovery room. They were discharged home with an indwelling Foley catheter the following morning before 08:00 for a total length of stay less than 24 hours. A follow-up appointment was scheduled for post-operative day seven for catheter removal. A prescription was provided for oral analgesia. Patients were instructed to call the office or return to the emergency room if they developed severe pain, vomiting, fever, hematuria or if they had any concerns. All charts were reviewed to determine each patient's actual length of stay and any subsequent visits to the emergency room following discharge. The Department of Finance at the Ottawa Hospital was consulted to assess the cost savings. A patient telephone questionnaire Figure 1 using an analog scale was conducted to assess the patient satisfaction with the overnight stay.

Sling Study Patient Satisfaction Questionnaire

Patient Research Number:

Date of Contact:

Good evening Ms. X. My name is Dr. Todd Webster. I am calling from Dr. Gerridzen's office with the division of Urology at the Ottawa Hospital. You recently underwent surgery for your bladder symptoms. I would like to ask you some questions regarding your satisfaction with the procedure. Is this a convenient time for me to ask you six questions? Do you have any objections to proceeding?

1. Was your actual length of stay what you expected it to be?
(exactly what expected) 1 2 3 4 5 (not what expected at all)

2. Did you feel prepared for discharge?
(felt totally prepared) 1 2 3 4 5 (not prepared at all)

3. Was LOS appropriate or do you feel it was too short?
(LOS very appropriate) 1 2 3 4 5 (definitely too short)

4. Overall, how satisfied were you with having your procedure performed on a daycare basis?
(extremely satisfied) 1 2 3 4 5 (not satisfied at all)

5. How difficult was managing your catheter at home?
(not difficult at all) 1 2 3 4 5 (very difficult)

6. What difficulties did you have with the catheter?
Answer:

Figure 1. Patient telephone questionnaire.

Results

Thirty-one patients underwent PVS with autologous rectus fascia at the Ottawa Hospital-Civic campus between November 2001 and April 2002. Four patients were excluded from the study; one patient refused to have her procedure done on an overnight basis and three patients underwent combined major gynecological procedures necessitating a longer stay. Only one of the remaining twenty-seven patients required a longer than 24 hour stay. She was admitted for a total of 48 hours to manage severe post-operative nausea and vomiting which was felt to be secondary to the general anesthetic. No patients were noted to have required emergency room consultation following discharge from hospital.

The per diem cost for one night stay at the Ottawa Hospital is $893.[4] The average length of stay for PVS during 2000 at the Ottawa Hospital was 4 days for a total cost of $3572. With the length of stay reduced to less than 24 hours, a cost savings of $2709 per case could be realized.

Frequency distribution tables were created to graphically display the results of the patient questionnaire Figures 2-6. The mean, median, and mode were calculated for each frequency distribution and are presented in Figure 7.

Discussion

Hospitals and health care workers in Canada are increasingly being relied upon to improve efficiency in the delivery of healthcare. Clearly the increase in government funding is not matching the growth in the population's need for and use of the Canadian healthcare system.[5] One solution has been the increased use of ambulatory care for invasive procedures. At the Ottawa Hospital we have reduced the length of stay for PVS from 4 days to less than 24 hours. The estimated cost savings based on the per diem rate for the Ottawa Hospital is $2709 per case. This number represents a global number taking into account all hospital admissions. Undoubtedly some procedures cost more than others per diem and case costing would provide more accurate information with which to determine the total savings. Unfortunately, the finance department could not provide more specific cost information. Perhaps implementing case costing at the Ottawa Hospital would assist in cost containment. With respect to monetary savings it is important to note that the Ottawa Hospital, like most hospitals across Canada function at near capacity. The "saved nights" only translate into dollar savings for the hospital if the beds

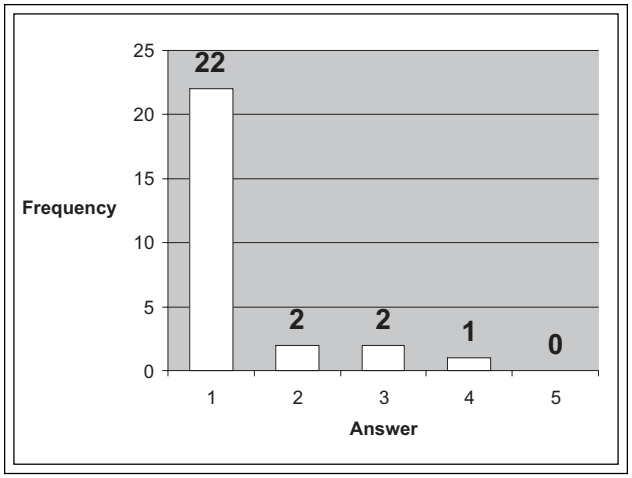

Figure 2. Was your actual length of stay what you expected it to be?

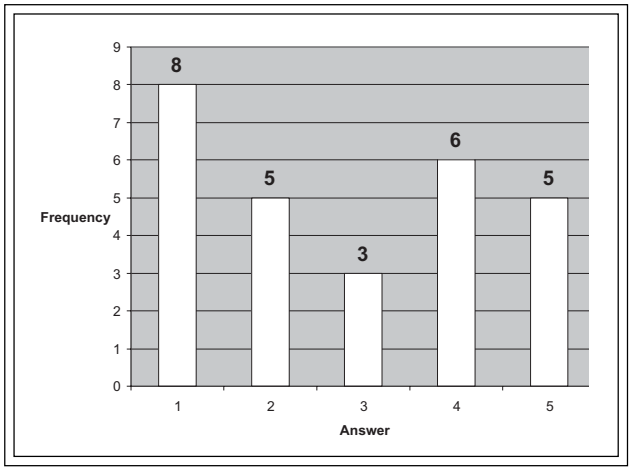

Figure 3. Did you feel prepared for discharge?

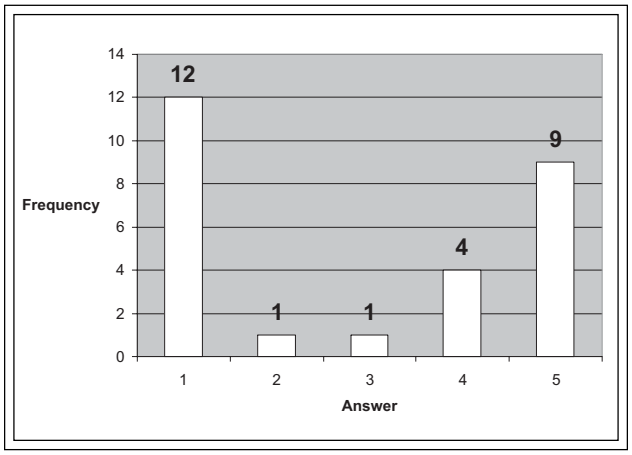

Figure 4. Was the length of stay appropriate or do you feel it was too short?

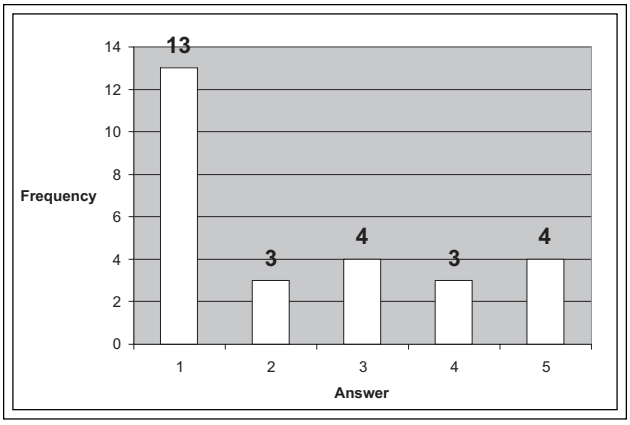

Figure 5. Overall, how satisfied were you with having your procedure performed on an overnight daycare basis?

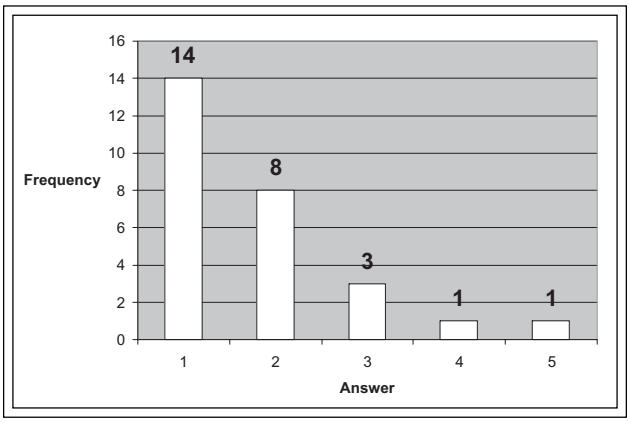

Figure 6. How difficult was managing your catheter at home?

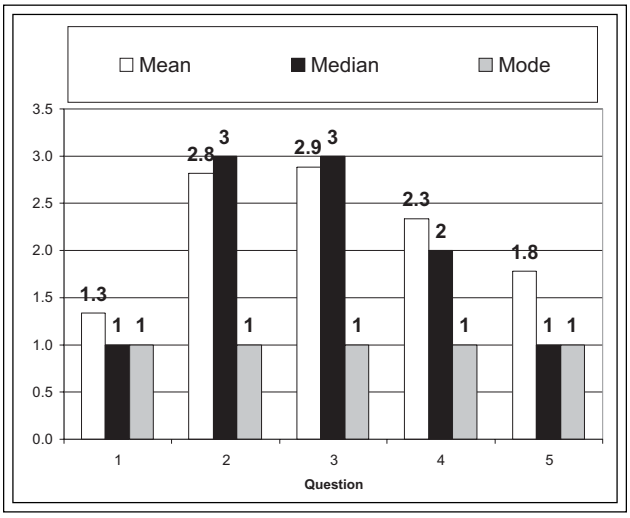

Figure 7. Statistical analysis on the frequency distribution.

remain empty. It is possible, even likely, that they were filled with other patients requiring care and no actual dollars were saved. Nonetheless, the shorter stay has improved bed utilization and increased the efficiency in the delivery of health care at the Ottawa Hospital. By improving the clinical efficiency of the hospital, the general public will benefit through shortened wait times and improved access to health care services.

However, this improved clinical efficiency must not come at the expense of individual patient care. Based on our study there were no medical problems associated with the decreased length of stay. All patients are assessed prior to discharge from hospital. In our study cohort one patient was not ready for discharge due to severe nausea and vomiting. Her total length of stay was still less than 48 hours, 2 days less than the historic length of stay. No patients visited the Ottawa Hospital emergency room between the time of discharge and their follow-up appointment in clinic on post-operative day seven. We feel that this attests to the fact that the length of stay can safely be limited to one night. We acknowledge that it is possible some patients sought medical care at alternative emergency departments or walk-in clinics, as we did not specifically ask them this question, although one would logically expect that the attending surgeon would have been made aware, should this have occurred soon after surgery.

An important issue, which is often minimized, is the public preparedness for and acceptance of these changes occurring in the delivery of healthcare. We are clearly being forced to do more with less and healthcare resources are stretched. Many patients are uneasy with this paradigm shift and long for the days when they could convalesce fully in hospital. Our questionnaire was designed to address this issue.

In response to Question 1 *("Was your length of stay what you expected it to be?")*, 81% (22/27) of the patients stated that the length of stay was exactly what they had anticipated demonstrating that the attending surgeon had clearly explained the expected length of stay Figure 2. From Question 2 *("Did you feel prepared for discharge?")*, we learned that patients were very mixed about their preparedness for leaving the hospital. Forty eight percent (13/27) of patients scored 1 or 2; 41% (11/27) scored 4 or 5; and 11% (3/27) had a neutral score of 3 Figure 3. Question 3 *("Was length of stay appropriate or do you feel it was too short?")* reveals that the patients were quite polarized in their responses. Either they felt the length of stay was very appropriate with a score of 1 (44%) or it was deemed definitely too short with a score of 5 (33%). Although not asked directly, it was noted that the patient's level

of support at home and the patient's familiarity with healthcare seemed to correlate with better scores in response to questions 2 and 3 Figure 4. It was interesting to discover from Question 4 *("Overall, how satisfied were you with having your procedure performed on an overnight daycare basis?")* that although some patients felt uneasy about leaving and some wished the length of stay was longer, most patients were satisfied with having the procedure performed on an overnight basis Figure 5. In the past, patients stayed in hospital to undergo voiding trials. In this series all patients went home with a catheter. Homecare services are not available for routine catheter care so instruction was provided prior to discharge. Question 5 *("How difficult was managing your catheter at home?")* demonstrates that very few patients found the catheter difficult to manage. In response to Question 6 *("What difficulties did you have with the catheter?")* most patients responded that they did not have any specific difficulties. Some patients found the catheter to be an inconvenience but did not have any major problems. It is important to emphasize that when analyzed statistically we see that the mode for each question was 1. This indicates that the most common answer was the most favorable response for all questions Figure 7.

Patients were asked for general comments and suggestions. Many stated they were uneasy and apprehensive about being at home post surgery. A fear of the unknown and not having an educated healthcare worker to answer questions contributed to this uneasiness. An important outcome of this study is the realization that further attention needs to be placed on developing ways to allay patient anxiety with regard to the earlier discharge. Perhaps a follow-up telephone call the day after discharge or a brochure outlining common questions would assist patients in coping at home.

Conclusion

In the current healthcare system, acute care hospitals are struggling to meet the increasing demand for high-quality care with finite, and often shrinking resources. Our study demonstrates that PVS may safely be performed with one night stay in hospital. In fact, since the completion of this study some patients are being discharged home on the day of the procedure. Although absolute cost savings may be limited, this is a more efficient use of healthcare resources. Although some patients felt uneasy about the short length of stay no medical complications related to the early discharge were seen. With more attention to patient education much of the anxiety associated with a shorter hospital stay will likely be alleviated. □

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