Safety and Efficiency in a Canadian Outpatient Gynaecological Surgical Centre

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Abstract

Objective: This study sought to describe safety and efficiency outcomes for patients undergoing procedures at the Women's Health Centre, an outpatient gynaecological surgical centre in Saskatoon, SK.

Methods: A retrospective chart review of surgical outpatient health records was conducted for the period of July 2014 to June 2015. Data were abstracted using a standardized data form for patient admissions during the study period. Primary outcomes of interest included procedure time, lead time (registration to discharge), complication rates, readmission rates, and reoperation rates. Descriptive statistics were calculated using Microsoft Excel and were summarized using frequencies and percentages. The Kruskal-Wallis test was performed for lead time and procedural time by using IBM SPSS Statistics 24 software (IBM, Armonk, NY).

Results: During the study period, 1720 patients were seen by 21 providers. The mean number of patients seen per month was 144. The main services provided include hysteroscopic sterilization, non-resectoscopic endometrial ablation, loop electrosurgical excision procedure, hysteroscopy, and therapeutic abortion. Pain management was administered by local anaesthetic and/or conscious sedation. The mean procedure time was 10 ± 6 minutes, whereas the lead time was 171 ± 43 minutes. Immediate complications occurred in 3.9% of patients, the most common being vaginal bleeding (1.3%). The long-term complication rate was 5.1%, with the most common complication being reoperation in the main operating room, at 2.9%.

Conclusion: Currently, many gynaecological procedures in Canada occur in a formal operating theatre setting. Our study demonstrates the safety and efficiency of an alternate setting where gynaecological procedures are performed on an outpatient basis by using local anaesthetic and conscious sedation.

Résumé

Objectif : Décrire, sur le plan de la sécurité et de l'efficacité, les résultats des interventions réalisées au Women's Health Centre, un centre de chirurgie gynécologique de jour de Saskatoon (Saskatchewan).

Méthodologie : Nous avons effectué un examen rétrospectif du dossier de patientes opérées entre juillet 2014 et juin 2015. Toutes les données ont été obtenues à l'aide d'un même formulaire, rempli à l'admission durant la période à l'étude. Les indicateurs de résultats principaux comprenaient la durée de l'intervention, le temps passé sur place (de l'inscription au congé) et les taux de complications, de réadmission et d'interventions répétées. Des analyses statistiques descriptives ont été effectuées dans Microsoft Excel, et les données ont été résumées sous forme de fréquences et de pourcentages. Pour la durée de l'intervention et le temps passé sur place, un test de Kruskal-Wallis a été réalisé au moyen de la version 24 du logiciel SPSS Statistics (IBM, Armonk, New York).

Résultats : Durant la période à l'étude, 21 professionnels ont reçu 1720 patientes, soit une moyenne de 144 par mois. Parmi les principales interventions réalisées figurent la stérilisation hystéroscopique, l'ablation non résectoscopique de l'endomètre, la technique d'excision électrochirurgicale à l'anse, l'hystéroscopie et l'avortement thérapeutique. Le traitement de la douleur consistait à administrer un anesthésiant local et/ou à procéder à une sédation consciente. En moyenne, la durée de l'intervention était de 10 ± 6 minutes, et le temps total passé sur place, de 171 ± 43 minutes. Des complications immédiates sont survenues chez 3,9 % des patientes, la plus fréquente étant des saignements vaginaux (1,3 %). Quant aux complications à long terme, elles sont survenues dans 5,1 % des cas; dans cette catégorie, les interventions répétées dans la salle d'opération principale constituaient la complication la plus fréquente (2,9 %).

Conclusion : Actuellement, bon nombre d'interventions gynécologiques au Canada ont lieu dans des installations opératoires conventionnelles. Notre étude prouve qu'il est sécuritaire et efficace de réaliser ce type d'interventions en consultation externe, en utilisant un anesthésiant local ou en recourant à la sédation consciente.

Key Words: Ambulatory gynaecological procedures, conscious sedation, efficiency, safety, minimally invasive procedures

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INTRODUCTION

Faced with increasing operational costs, many institutions across North America and Europe have searched for alternatives to the conventional practice of offering gynaecological procedures using general anaesthesia.[1–3] With advances in minimally invasive gynaecology, ambulatory

procedures with intravenous or local anaesthetics have become an option for patients seeking certain gynaecological procedures.[2,3] Published studies have demonstrated the safety and efficacy of performing diagnostic and operative hysteroscopy, endometrial ablation, and therapeutic abortions in such a setting.[4–10] In surveys evaluating ambulatory gynaecological procedures, patients have expressed an overt preference for outpatient procedures compared with inpatient procedures because of the reduced time away from work and faster recovery.[3,6,11] For these reasons, outpatient gynaecological procedures have become an appealing option for patients, physicians, and health care institutions.[3]

During ambulatory procedures, adequate analgesia is paramount to a satisfactory patient experience.[12] Several studies have recommended the concurrent use of intravenous sedation and a local anaesthetic for outpatient gynaecological procedures.[12–15] With outpatient endometrial polypectomies, patient discomfort remains the leading cause for procedure failure and reduced acceptability to patients.[6,15,16] Several attempts to circumvent this issue have been introduced, with varying degrees of success. These include the use of non-steroidal anti-inflammatory drugs, anxiolytics, misoprostol, and local anaesthetics.[12,15] Preoperative anxiety has been demonstrated to be closely associated with pain perception, thereby increasing the likelihood of a less satisfactory patient experience and of choosing a general anaesthetic if another gynaecological procedure is required in the future.[14,17]

In 2010, the Women's Health Centre (WHC) was launched by the Saskatoon (SK) Health Region as an outpatient ambulatory clinic with the goal to provide an efficient means of performing gynaecological procedures without compromising patient comfort, satisfaction, and safety. In the present study, we assessed the safety and efficiency outcomes of the ambulatory procedures completed in the WHC.

METHODS

A retrospective chart review was completed on patients who were scheduled to undergo a gynaecological procedure at the Saskatoon City Hospital's WHC, a tertiary care centre, between July 2014 and June 2015. Data were collected using a standardized data collection form for all patient admissions. The study was reviewed by the Research Ethics Board of the University of Saskatchewan. Because it was a quality assurance project, we were exempted from the requirements of Research Ethics Board review and approval (Bio #14–132).

All patients undergoing a gynaecological procedure at the WHC were included in the study. Patients' charts with incomplete information or same-day cancellations were excluded from the study. Our primary outcomes of interest were efficiency and safety measures. Efficiency measures included lead time, defined as the period from registration at the WHC until discharge; preoperative wait time; and procedural time. Safety measures included complication, readmission, and reoperation rates. Complications of interest were divided into immediate and postoperative complications, including operative complications, anaesthesia complications, and failed procedures. Reoperation rates and readmission rates were documented.

Patients requiring a gynaecological procedure were recruited by the service provider to undergo the operation in the ambulatory clinic. After admission to the WHC, all patients had an intravenous catheter placed. The service provider then selected one of three preoperative non-steroidal anti-inflammatory drugs: ibuprofen, naproxen, or ketorolac. All procedures were completed using nurse-administered intravenous sedation consisting of fentanyl (up to 2 μg/kg) and midazolam (up to 5 mg). Use of a lidocaine paracervical block varied by individual surgeon and procedure. As per the position paper published by Canadian Anesthesiologists' Society on procedural sedation, patients were monitored using a blood pressure cuff and continuous pulse oximeter for oxygen saturation and heart rate measurements. Following the procedure, patients were monitored for a minimum of 30 minutes after the last dose of intravenous sedation before being discharged home.

Descriptive statistics were calculated using Microsoft Excel. Procedural and lead times were calculated using mean values and standard deviations. Safety measures were summarized using frequencies and percentages. The Kruskal-Wallis test was performed using IBM SPSS Statistics 24 software (IBM, Armonk, NY) for lead time and procedural time.

RESULTS

A total of 1720 women underwent gynaecological procedures in our outpatient surgical centre between July 2014 and June 2015. Complete data were available in 1501 charts (87.3%) after excluding charts with missing or incomplete information. The average age of participants was 35.5 ± 12.3 (range 15–87). The average BMI was 27.2 ± 6.0 kg/m^2 (range 16.2–42.2). There were 21 physicians who completed procedures, including 19 gynaecologists and two family physicians. As seen in Table 1, 10 separate procedures were performed with multiple procedures in 7.5% of patients (112 of 1501). Additional pain control was required intraoperatively in 0.1% (2 of 1501) and postoperatively in 17.7%