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Retrospective study

Role of Hysteroscopy (HSY) in the Management of Abnormal Uterine Bleeding (AUB) in women with an Intact Hymen

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Abstract

Background & Objectives: Virginity, is considered as a sign of sexual purity in many societies, and damage to the hymen carries with its serious social implications for patients. Based on these issues & because of (HSY) being the only technique that provides direct visualization of uterine cavity, our aim of this study was to assess its role in diagnosis & treatment of uterine pathology causing (AUB) in 17 unmarried patients with an intact hymen.

Materials & Methods: Medical records of these patients for whom HSY were performed during a period of one year, at AL-Amal hospital, were studied retrospectively. All underwent diagnostic HSY & operative (when necessary). Outcomes: treatment success (neither hymen nor cervix were injured), menstrual flow reduction, need of second operation, patient satisfaction & complications. Treatment was considered as a failure if hymen or cervix was injured or with repeated attacks of AUB.

Results: All went smoothly, neither hymen nor cervix were injured, no uterine perforations were encountered. Mean follow-up period was 3 months. All patients but one (treatment failure, with repeated attacks of AUB) were satisfied and showed menstrual improvement.

Conclusions: HSY, a minimally invasive procedure, found to be reliable, safe and effective in the management of women with intact hymen and with AUB, by avoiding trauma to the hymen and cervix, reducing monthly blood loss significantly and with a high satisfaction rate.

Keywords: Hysteroscopy; Intact Hymen; Uterine Pathology; Abnormal Uterine Bleeding

Introduction

Abnormal uterine bleeding (AUB) is one of the most common presenting complaints encountered by gynaecologists where it accounts for up to 20% of visits to the gynecology clinics [1]. It has been shown that 79% of women with AUB might not have identifiable source of such bleeding (polyps, myomas, hyperplasia, or carcinoma) and subsequently leave the clinician with a "diagnosis of exclusion" of dysfunctional or anovulatory uterine bleeding (DUB) [2]. As hysteroscopy is generally acknowledged to be the 'gold standard' technique for investigating the uterine cavity for endometrial abnormalities and focal lesions [3-7], the majority of women with AUB ultimately undergo diagnostic hysteroscopy with endometrial sampling as part of their assessment, particularly if symptoms persist or pelvic imaging shows a uterine abnormality. Traditionally, hysteroscopy involves the use of a speculum and a tenaculum to visualize and hold the cervix while the hysteroscope is inserted into the uterine cavity. Although the possibility of hymen preservation is high, virgins are highly resistant to this procedure [8]. This may be due to a belief that the procedure causes disruption of virginity and worries associated with their future partners. Recent technical advances, such as the introduction of small-diameter rigid and flexible hysteroscopes, have made it possible to perform hysteroscopy in virgin women. Moreover, a new approach to diagnostic hysteroscopy has been developed which called vaginoscopy or 'no-touch' approach, in which hysteroscopy

is performed without instrumenting the vagina. Use of vaginoscopy allows for clear visualization of the vagina and cervix (the cervix being identified visually by hydrodistension of vagina) without distorting hymenal anatomy, as well as diagnosis and removal of a foreign body and evaluation of mucosal damage caused. Several studies have shown that this approach is effective and reduces women's discomfort [9-14]. Our aim in this study was to assess the role and safety of hysteroscopy in the diagnosis and treatment of uterine pathology causing AUB in 17 unmarried patients with an intact hymen.

Patients & Methods

Medical records of 17 referred patients with AUB and intact hymen were included in the study with ages ranges from 17-39years over a period of 12 months at Alamal hospital-Misrata Libya. The main complaint was menorrhagia in 8 patients, intermenstrual bleeding in 5 patients, while the remaining 4 patients complained of metrorrhagia and have endometrial echogenicity on ultrasound scan. All patients were not responding to medical treatments. Hysteroscopy was carried out 3-7 days after menstrual bleeding stopped. Preoperatively, necessary laboratory investigation done for all patients, including complete blood count, coagulation and hormonal profiles, misoprostol of 2 tablets (400μgm) were inserted pre-rectum 4hrs. before intervention to soften the cervix. After proper counselling, consent was obtained from each patient or her parents.

Surgical Interventions

Patient urinary bladder evacuated before surgery and placed in the dorsal lithotomy position on the operating table. Hysteroscopy was performed under general anesthesia. The vulva was cleansed with antiseptic solution, followed by vagina through the hymen using a bladder catheter. As our target was to maintain patient's virginity, every effort was made to accomplish it; uterus was kept in mid-position to facilitate easier access to the cervical canal and uterine cavity and to avoid hymenal damage during the operation. A 3.9-mm hysteroscopy (Olympus) continuous flow was inserted into the vagina through the hymen without a speculum to preserve the integrity of the hymen, additionally, avoidance of wide movements during manipulation was necessary, saline was used as a distending medium. Vaginal wall and cervix and canal were visualized to look for any lesions or abnormalities. By introducing the hysteroscopy into the uterine cavity, the whole of it in addition to the fallopian tube ostia can be visualized and any lesions can be identified. Under direct vision, using the 5Fr flexible biopsy forceps which was introduced through the hysteroscope, an endometrial biopsy was taken and polyps were removed in pieces. At the end of the procedure, the hymen of each patient was checked and it was intact.

Outcomes

Treatment success (neither hymen nor cervix were injured), menstrual flow reduction, degree of pain, need of second operation, patient satisfaction and complications. Treatment was considered as a failure if hymen or cervix was injured or with repeated attacks of AUB.

Results

In our study, all 17 hysteroscopies were successfully performed without injuring the intact hymen or the cervix, also no uterine perforations were encountered. Following the guidelines, the process of inserting the hysteroscope into the uterine cavity was smooth and required only about few minutes. The hysteroscopic view was clear, and the mean time for the procedure was 20minutes (±4). The hysteroscopic findings were: endocervical polyps in five patients, endometrial polyps in three patients. This result was confirmed by histopathological examination (HPE). Thickened endometrium was found in six patients. Five of these patients had endometrial hyperplasia (simple or complex), and one had atypical hyperplasia grade I on HPE. This patient was treated with an oral progestin & metformin for 3months. Three women showed evidence of endometritis on HPE, given proper antibiotics. No other pathological findings. The mean follow-up period was 3 months, none of the patients were lost during this time. All patients but one (treatment failure, with repeat attack of AUB) were satisfied with the procedure, no hymenal injuries and their symptoms were relieved. This patient went surgical re-intervention, and a missed submucous myoma was diagnosed, and resected successfully.

Discussion

Vaginal approach of lesions in patients with intact hymen has always been a problem. In many societies, especially Islamic, the mechanical dilatation of the hymenal ring may causes concerns about reproductive issues including marriage, social identity, and the preservation of virginity. Virginity, defined as an intact hymen, is considered a sign of sexual purity, and represents the honor of a woman and her family [15-17], therefore many patients and their parents are deeply concerned about injury to the hymen ring during a vaginal operation. Such cultural attitude leads to delayed diagnosis and management of some uncommon but serious situation, such as endometrial malignancy which is life-threatening, in addition the gynaecologists are afraid of future allegations. This is an important issue that gynecologists encounter. In patient who desire to keep the hymen intact, endometrial pathology cannot be diagnosed early or treated properly due to the limitation of application of either routine hysteroscopy or dilatation & curettage (D&C). In addition, no tissue is available for histopathological examination. Despite their concerns about damage to the hymen, some women who fails to respond to medical treatment will have to accept D&C to control hemorrhage. Although medically necessary, for these patients there is trauma to the hymen as well as persistent social stigma.

This study demonstrated the feasibility in adult patients of hysteroscopy without traumatizing the hymen as well as the therapeutic value of this procedure. Previous studies have demonstrated the feasibility of the hysteroscope as a vaginoscope

for the diagnosis and treatment of vaginal problems in children and adolescent [18,19]. Operative hysteroscopy such as endometrial biopsy, removal of endometrial polyps, removal of foreign body, vascular malformations and removal of thickened endometrium to control hemorrhage has been performed successfully in adult and children patients with an intact hymen as it has been reported in previous studies [20-24]. In addition, hysteroscopy can be useful if necessary, in the continuing treatment of these patients. Fortunately, the hymen has elasticity, making it feasible to pass a hysteroscope of 8-mm or less in diameter through the hymenal opening. However, the difficulty in hysteroscopic examination of patient with intact hymen lies in the tight cervix. To protect the hymen, the cervix cannot be routinely fixed and opened using dilators, and thus it is difficult to place the hysteroscope into the uterine cavity. Hence, misoprostol was placed rectally to soften the cervix, which showed to be effective in previous studies [25].

Another factor in the success of this procedure could be that, most patients suffered from abnormal vaginal bleeding, and the cervical so may have been more patent than usual due to persistent bleeding and cramping. There were some patients in our study whose cervical os was too open to keep the irrigation solution, and a larger diameter hysteroscope had to be used to finish the procedure. In some women with a more patent os, increasing the distension pressure and the flow-rate was used to improve the distension of the uterine cavity. Hysteroscopy under general anesthesia avoids the possibility of hymenal trauma caused by patient's movements due to pain and anxiety. With our minihysteroscopy, loop electrode cannot be employed; therefore, for some diseases like submucous myoma, it is not therapeutically beneficial, and this should be explained to the patients in advance. Adequate preoperative counseling is also necessary to emphasize the importance of the procedure and to lessen their anxiety.

Conclusion

Hysteroscopy is a safe, convenient and efficient diagnostic and therapeutic modality that can be used in management of women with intact hymen and with AUB due to uterine pathology. It respects and maintains the patient's virginity and should be available to women who desire it. The procedure requires operative skills and experience in manipulating the hysteroscope. The possibility of hymen trauma and other complications should be part of the preoperative consent process of patient's counseling.

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