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ORIGINAL ARTICLE

Factors affecting pain experienced during office hysteroscopy

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KEYWORDS

Pain;
Office hysteroscopy;
Predictive factors

Abstract *Study objective:* To evaluate the effect of parity, menopausal status, menstrual cycle phase, cervical or uterine pathology and duration of procedure on pain experienced during office hysteroscopy.

Design: Cohort study (Canadian Task Force classification II-2).

Setting: University hospital.

Patients: Two hundred and fifty-four women.

Intervention: Office hysteroscopy without anesthesia.

Methodology: Pain intensity was assessed at the end of procedure using visual analog scale from zero (no pain) to ten (intolerable pain).

Results: Eighty-six patients (33.86%) reported no pain or mild discomfort (0–3 pain score), 118 patients (46.46%) reported moderate pain (4–7 pain score), 44 patients (17.32%) experienced severe pain (8–9 pain score) and 6 patients (2.36%) experienced intolerable pain (10 pain score) necessitating stoppage of the procedure. Bivariate analysis revealed that nulliparous patients had a higher risk of developing severe or intolerable pain compared with non-nulliparous patients (26.67% vs. 11.76%, P value = 0.003). Moreover, severe or intolerable pain was reported more frequently in patients with cervical pathology and duration of procedure more than 2 min (39.58% vs. 15.05%, P value = 0.0001 and 25.22% vs. 15.11%, P value = 0.044 respectively). Multivariate analysis revealed that nulliparity, cervical pathology and duration of procedure more than 2 min were strongly associated with severe or intolerable pain (8–10 pain score).

Conclusion: Nulliparity, cervical pathology and duration of procedure more than 2 min seem to be the main factors associated with severe or intolerable pain during office hysteroscopy.

1. Introduction

Office hysteroscopy is considered a valuable addition to the outpatient diagnostic modalities in gynecology clinic. Several studies have shown that office hysteroscopy by the vaginoscopic approach is a well accepted tolerable procedure without the need of analgesia or pain medication with a limited failure rate

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of less than 4% (1,2). However, in some patients, premedication or simultaneous use of local analgesia as cervical block may be necessary to accomplish the procedure (3).

Cicinelli et al. (4), based on an experience of 8000 cases of office hysteroscopy, reported that approximately 10% of the patients experienced mild pain, and 0.5% of the cases experienced severe pain. Similarly, several studies have shown that failure rate and pain are much reduced with the use of smaller diameter scopes less than 4 mm as compared with traditional hysteroscopy (5–7).

Anticipation for the need of premedication or additional analgesia to relieve pain during the procedure may reduce the failure rate of office hysteroscopy. This reduces psychological burden on the patient and increases the effectiveness of the medical service provided. In evaluating different predictors of pain, several studies have reported controversial results for the significance of clinical variables, such as parity, mode of delivery and menopausal status, presence of cesarean section scar etc (8,9). Moreover, the effect of surgeon's experience and diameter of the scope have been controversial in other studies (10–12). The aim of this study was to evaluate the effect of patient parity, menopausal status, menstrual cycle phase, cervical or uterine pathology and duration of procedure on pain experienced during office hysteroscopy.

2. Methods

This prospective study, performed between July 2012 and July 2013, included 254 patients who were referred to the hysteroscopy outpatient clinic of Cairo University hospital, Egypt. The study protocol was approved by the institutional ethics committee and informed consent was obtained from the patients. Women with infertility, abnormal uterine bleeding, abnormal finding on ultrasound examination or hysterosalpingography and missed intrauterine device were recruited to the study. Contraindications for the office hysteroscopy were severe bleeding, history of severe cardiovascular disease, endometrial neoplasia and suspicion of pregnancy. Moreover, patients with a history or suspicion of pelvic inflammatory disease were excluded from the study.

Office hysteroscopy was performed using the vaginoscopic approach as described by Betocchi and Selvaggi in 1997 (13). A rigid 2.9 mm scope Hopkins type II forward oblique lens (Karl Storz, Tuttlingen, Germany) and outer sheath diameter of 4.3 mm diagnostic office hysteroscopy was used in the procedure (code 26153BI). Saline was used as a distending medium and the pressure used was set between 80 and 100 mmHg. No premedication was given to the patient during their waiting time and cervical preparation was not done.

In all the patients, office hysteroscopy started by introducing the scope into the vagina and performing vaginoscopy followed by passage of the scope through the cervix slowly allowing the fluid distend the cervix slowly while performing cerviscopy. Since the passage of the scope through the internal os was the most painful part of the procedure care was taken to pass the scope as slowly without touching the uterine wall at any time. Throughout the procedure a visual contact was maintained with the patient to observe the patient response to pain and tolerability while interacting with the patient explaining the findings of the procedure. At the end of the procedure the total duration of the procedure was recorded.

Immediately after the end of procedure, the patients were asked to score pain experienced during the procedure according to a 10 cm visual analog score (VAS) as follows; zero = no pain, 1–3 = mild discomfort, 4–7 = moderate pain, 8–9 = severe pain, 10 = intolerable pain.

Patients were divided into two groups; group A if no pain, mild discomfort or moderate pain were felt during procedure (pain score 0–7) and group B if patients experienced severe or intolerable pain (pain score 8–10). Failure of the procedure was defined as inability to complete the procedure either because of the intolerable pain or inability to introduce the scope into the uterine cavity.

Statistical analysis was performed via χ^2 test or Student *t*-test as appropriate. A Yates correction equation was used when the expected frequency was less than 5. P value < 0.05 was considered statistically significant. Multivariate analysis was done using multiple logistic regression to detect factors associated with severe and intolerable pain and failure of hysteroscopy. All statistical calculations were performed using Excel version 7 (Microsoft, New York, NY, USA) and SPSS (SPSS, Chicago, IL, USA).

3. Results

Eighty-six patients (33.86%) reported no or mild pain, 118 patients (46.46%) reported moderate pain, 44 patients (17.32%) experienced severe pain and 6 patients (2.36%) experienced intolerable pain necessitating stoppage of the procedure. There were no significant differences in the age or body mass index between patients with severe or intolerable pain and patients with mild or moderate pain (33.52 ± 11.42 vs. 33.90 ± 10.04, P value = 0.831 and 31.7 ± 5.64 vs. 30.95 ± 4.71, P value = 0.39 respectively).

The indications for referral of the patients to the hysteroscopy clinic were infertility (53.15%), reproductive age bleeding (12.99%), post-menopausal bleeding (5.91%), preparation for in vitro fertilization embryo transfer (IVF-ET) (11.02%), 2nd look hysteroscopy (5.12%), missed intrauterine contraceptive device (IUCD) (4.33%), suspected endometrial polyp (3.94%), or intrauterine synechiae (2.36%), chronic pelvic pain (0.79%) and amenorrhea (0.39%).

At the time of hysteroscopy examination, 181 patients were in the proliferative phase (71.26%), 55 were in the secretory phase (21.65%), 15 were menopausal (5.91%) and 3 were amenorrheic (1.18%).

Cervical pathology was present in 48 patients (18.9%). Twenty-three patients had cervical stenosis at internal os (9.06%), eight patients had cervical polyp (3.15%), six patients had adhesions (2.36%), five patients had nabothian follicles (1.97%), three patients had hypertrophied cervix of chronic infection (1.18%), two patients had stenosis at external os (0.79%) and one patient had cervical septum (0.39%).

Uterine pathology was detected in 117 patients (46.06%). Anatomical abnormalities detected were arcuate uterus (7.48%), subseptate uterus (5.91%), bicornuate uterus (1.97%), unicornuate uterus (1.57%), hypoplastic uterus (0.39%) and tubular cavity (0.79%). Other abnormalities detected were endometrial polyps (9.84%), submucous myoma (5.91%), polypoidal endometrium (3.94%), distorted irregular cavity