



## Fertility after hysteroscopy. Study conducted at the Pikine National Hospital Center.

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## SUMMARY

**Objectives:** To describe the indications for operative hysteroscopy as well as the results obtained concerning fertility.

**Patients and methods:** The study is a retrospective, descriptive study in the department of Obstetrics and Gynecology of the National hospital of Pikine (Dakar). The study does analyze all patients who underwent operative hysteroscopy during the period from January 1, 2017 to December 31, 2018. Data entry and analysis were done with EXCEL software.

**Results:** Most of the patients did consult for infertility (76.8%). Polyps (58.6%) and fibroids (56.6%) were the main preoperative findings. Followed by synechiae (five cases) and uterine septa (three cases). Cervical preparation with misoprostol was carried out in half of the cases and general anesthesia was performed in 98% of the cases. Resection with a bipolar loop was the procedure adopted for all cases. Operative laparoscopy for tubal infertility was associated with hysteroscopy in six cases. The average duration of the intervention was 70 minutes. One case of uterine perforation during cervical dilation has been observed. The hysteroscopy was technically possible without complications in 99% of the cases. Postoperatively, 18% of the patients did present with normal menstrual pattern and 47.3% had become pregnant.

**Conclusion:** A polyp or fibroid diagnosed in the uterine cavity should be treated by hysteroscopic excision if the patient presents with infertility.

**Keywords:** Hysteroscopy, Polyp, Submucosal fibroid, Infertility

## INTRODUCTION

Over the last twenty years operative hysteroscopy has become the Gold Standard in the treatment of intra-uterine pathology. Because of the specific learning curve this technique however is reserved for trained surgeons in an adapted surgical environment (1,2). Fertility problems is

one of the indications for the use of the technique with the aim to improve the nidation of the embryo (3). The aim of this study is to evaluate the use of the hysteroscopic technique at the university affiliated tertiary reference center Pikine Notional Hospital Center.

## PATIENTS AND METHODS

This is a retrospective study at the department of Gynecology and Obstetrics of the National Hospital Center Pikine a tertiary reference center affiliated to the Sheikh Anta Diop University, Dakar, Senegal. The study runs from the first of January 2017 through the 31<sup>st</sup> of December 2018. All patients (n=99) who underwent a hysteroscopy have been included in the study with the following parameters: married status, clinical and para-clinical data, surgical data, and results after surgery. The collecting and the analysis of the data have been accomplished with Microsoft Excel software.

## RESULTS

During the study period 14 % (n=99) of the patients underwent an operative hysteroscopy. The mean age of the patients resulted to be 36,8 years with a margin of 4 years from 27 to 45 years of age. Most of the patients did consult for fertility related problems (16.8%) and/or abnormal uterine bleeding (63.6%). The patient cohort of the nulligravidae represented more than half of the patient population (51.5%). C Section was the most frequent surgery in the clinical history (11%) followed by myomectomy (9%). 19.2% of the patients did report a miscarriage (Tab 1).

**Tab 1. Distribution of patients according to the reasons for consultation at the National Hospital of Pikine (Dakar)**

|                              | <b>Frequ<br/>ency</b> | <b>Percent<br/>age</b> |
|------------------------------|-----------------------|------------------------|
|                              | <b>N = 99</b>         | <b>%</b>               |
| <b>Age</b>                   |                       |                        |
| 20-29 years                  | 67                    | 67.7                   |
| 30-39 years                  | 29                    | 29.3                   |
| 40-49 years                  | 3                     | 3                      |
| <b>Parity</b>                |                       |                        |
| Nulliparous                  | 59                    | 59.6                   |
| Primiparous                  | 25                    | 25.3                   |
| Multiparous                  | 15                    | 15.1                   |
| <b>Consultation Patterns</b> |                       |                        |
| Infertility                  | 76                    | 76.8                   |
| Menorrhagia                  | 63                    | 63.6                   |
| Pelvic pain                  | 31                    | 31.3                   |
| Pelvis mass                  | 1                     | 1.0                    |
| <b>Pathology</b>             |                       |                        |
| Polyp                        | 51                    | 51.5                   |
| Fibroma                      | 40                    | 40.5                   |
| Synechia                     | 5                     | 5                      |
| Uterine septum               | 3                     | 3                      |

cavitary fibroids. The largest number found was three submucous or intracavitary fibroids. Hysterosalpingography (HSG) was performed in every patient presenting with fertility problems. This exam averred to be normal in 75.6 %. Tubal occlusion was diagnosed in 13 cases. In 79 of the patients HSG did confirm polyps in 51 cases and fibroids in 22.

Polyps have been resected in 51.5 % of the patients whilst fibroids in 40.4 %. In half of the patients a preparation of the cervix with 400 micrograms of misoprostol has been performed. 97 % of the patients did undergo general anesthesia. The duration of the hysteroscopy did score at 70 minutes with the shortest at 50 and the longest at 120 minutes. Operative hysteroscopy did yield satisfactory results in 99 % of the cases. As complications one uterine perforation during cervical dilatation has been observed and three episodes of peroperative bleeding. These bleedings have been resolved with adapted treatment. The postoperative period has been without complications with a medium of two days of hospitalization. Results have been collected during or the postoperative visit at the fertility clinic or during a telephone follow-up. The mean follow-up has been of one year. During that period 18 % of the patients regained a normal menstrual pattern. Pregnancy did occur in 47 patients: nine spontaneous pregnancies and 37 after ovulation induction and one after in vitro fertilization and embryo transfer (IVFET) (Tab 2).

Pelvic ultrasound did reveal polyps in 58.6 % and fibroids in 25.6 % of the patients. The patients did present on average with 1,6 (range 0,6 med 2) submucous or intra-

**Table 2. Distribution of patients according to the results of operative hysteroscopy at the National Hospital of Pikine**

|   | Freq<br>uenc<br>y<br>N= | Perce<br>ntage<br>(%)<br>99 |
|---|-------------------------|-----------------------------|
| Stopping<br>menometrorrhagia              | 18                      | 18                          |
| Spontaneous pregnancy                     | 9                       | 9                           |
| Pregnancy after ovulation<br>induction    | 37                      | 37.<br>3                    |
| Pregnancy after in vitro<br>fertilization | 1                       | 1                           |
| Lost to follow-up                         | 34                      | 34                          |
| Total                                     | 99                      | 100                         |

## DISCUSSION

The frequency of the operative hysteroscopy procedures in our study (14%) is lower than reported in European studies (1,2). Operative hysteroscopy is indeed less accessible in our region. Only few hospitals are able to provide for the technical set-up and only few gynecologists perform the technique on a regular basis. As an example, until 2020 operative hysteroscopy was only possible in two out of 14 regions of Senegal (Dakar and Ziguinchor). The costs remain quite high for the patients who have to undergo the treatment. Infertility being the main motivation for the patient to undergo the treatment. In a previous study at our department it was established that intra

uterine pathology did account for 41.8 % of the causes for infertility (4).

The rules that allow the medical community to establish protocols for the diagnostic procedures are set by the scientific societies. These rules allow our group to work safely and efficiently. In 1991 the General Assembly of the CNGOF recommended HSG as a first exam whereas Trans Vaginal Ultrasound (TVS) was ruled to be a diagnostic tool of the second line (5). Our group argues for TVS to become a primary investigational tool for the exploration of female infertility in the different regions of Senegal. One key argument is that TVS is less costly and can be performed by a larger number of physicians. As a reminder it can be stated that TVS performed in conjunction with HSG in the study at hand did diagnose polyps in 58.6 % and fibroids in 56.6 % of the patients.

Indication for operative hysteroscopy in this study have been the diagnosis of polyps and fibroids this tendency is corroborated by most of the published studies (6,7,8). The time needed to perform operative hysteroscopy in this study was 70 minutes and is high when compared to studies in the literature (9). The explanation could be the average number of fibroids of 1,6 in median found in this study and also by the fact the operative hysteroscopies have been linked to laparoscopies in certain patients.

One case of uterine perforation has been reported in the study. Some authors do report delayed complications like uterine ruptures during pregnancies after operative hysteroscopy (10,11).

The results have been satisfactory with a stop of abnormal uterine bleeding in 18 % of the patients and a pregnancy rate of 47.3 %. There are reports that pregnancies in patients after hysteroscopic surgery have the same evolution as in patients with a normal uterine cavity (9). One of the patients did have an IVFET treatment resulting in a pregnancy with normal childbirth at term. In IVFET authors do suggest that diagnostic hysteroscopy eventually followed by operative

hysteroscopy is indicated after two failures of implantation or after a difficult embryo transfer. Others claim the hysteroscopy should be performed before attempting IVFET (9).

## Conclusion

Hysteroscopy has become the gold standard for diagnosing and treating most of the benign intra-uterine pathologies. This study is a further proof that this method is important in treating infertility.

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