

EVALUATION OF THE EFFECTIVENESS OF THE USE OF A BIPOLAR MINI-RESECTOSCOPE TO IMPROVE THE PROVISION OF GYNECOLOGICAL CARE TO PATIENTS WITH INTRAUTERINE PATHOLOGY

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Abstract

The analysis of the results of a comprehensive clinical and instrumental examination of 104 women who were treated in the day hospital of the Department of Gynecology in JSC "National Scientific Center of Surgery of A. N. Syzganov" in the period from September 2019 to December 2020 was carried out. In order to evaluate the effectiveness of the technology of bipolar "mini" resectoscopy in intrauterine pathology in women with various forms of infertility, 104 patients were examined, which were divided into two groups:

Group 1 – patients with primary infertility (41);

Group 2 – patients with secondary infertility (63).

The study included women aged 21 to 45 years, the average age of patients was 31.5 years. The main complaint of all patients was the absence of pregnancy with regular sexual activity for 1-10 years. Menstrual disorders were observed in 61 women, which was 59%. The analysis of clinical and anamnestic data of 104 women showed the presence of primary infertility in 40.0% of patients, and secondary infertility in 59%. In women with primary and secondary infertility after mini-hystero resectoscopy (GDS), the lowest percentage of intrauterine pathology was endometrial hyperplasia (0.9%) and frequent or complete intrauterine septa (0.9%). Submycous uterine fibroids were diagnosed in 3.2% of patients, and in 12% of cases there were intrauterine synechiae. The largest number of patients encountered pathologies - chronic endometritis (45%), endometrial polyp (38%). Thus, in the study groups, we determined and established the frequency of intrauterine pathology in women with various forms of infertility after mini-GDS. All surgical manipulations of bipolar mini-hysteroscopy with resection were performed without anesthesia in 43.2% of cases and under local anesthesia in 56.8%.

Keywords

mini hystero resectoscopy, intrauterine pathology, various forms of infertility

Жатырішілік патологиясы бар науқастарға гинекологиялық көмек көрсетуді жақсарту мақсатында биполярлық мини-резектоскопты қолданудың тиімділігін бағалау

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Аңдатпа

2019 жылғы қыркүйек және 2020 жылғы желтоқсан аралығында «А.Н. Сызғанов атындағы Ұлттық ғылыми хирургия орталығы» АҚ-да гинекология бөлімшесінің күндізгі стационарында емделіп жатқан 104 әйелдің кешенді клиникалық-аспаптық тексеру нәтижелеріне талдау жүргізілді. Бедеуліктің түрлі формалары бар әйелдердегі жатырішілік патология кезінде биполярлы «мини» резектоскопия технологиясының тиімділігін бағалау мақсатында 104 науқас тексерілді, олар екі топқа бөлінді:

1 топ – бастапқы бедеулігі бар науқастар (41);

2 топ – қайталама бедеулігі бар науқастар (63).

Зерттеуге 21 жастан 45 жасқа дейінгі әйелдер қатысты, науқастардың орташа жасы 31,5 жасты құрады. Барлық науқастардың негізгі шағымы – 1-10 жыл бойы тұрақты жыныстық қатынаста жүктіліктің болмауы. 61 әйелде менструальдық циклдің бұзылуы байқалды, бұл 59%-ды құрады. 104 әйелдің клиникалық-анамнестикалық деректерін талдау науқастардың 40,0%-ында бастапқы бедеуліктің, ал 59% -ында қайталама бедеуліктің бар екенін көрсетті. Мини гистерорезектоскопияны (ГТС) жүргізгеннен кейін бастапқы және қайталама бедеулігі бар әйелдерде жатырішілік патологияның ең төменгі пайызы эндометриялық гиперплазия (0,9%) және жиі немесе толық жатырішілік септумдар (0,9%) болды. Науқастардың 3,2%-ына субмикозды жатыр миомасы диагнозы қойылған, ал 12% жағдайда жатыр ішілік синехия болған. Науқастардың басым бөлігінде созылмалы эндометрит (45%), эндометрия полипі (38%) патологиялары кездесті. Осылайша, зерттелген топтарда біз мини ГТС-тен кейін бедеуліктің түрлі формалары бар әйелдердегі жатырішілік патологияның жиілігін анықтадық. Резекциясы бар биполярлы мини гистероскопияның барлық хирургиялық манипуляциясы 43,2% жағдайда анестезиясыз және 56,8% жағдайда жергілікті анестезия арқылы жүргізілді.

Түйін сөздер

мини гистерорезектоскопия, жатырішілік патология, бедеуліктің түрлі формалары

Оценка эффективности применения биполярного мини-резектоскопа для улучшения оказания гинекологической помощи пациенткам с внутриматочной патологией

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Аннотация

Проведен анализ результатов комплексного клинико-инструментального обследования 104 женщин находившиеся на лечении в дневном стационаре отделения гинекологии в АО «Национальный научный центр хирургии А.Н. Сызганова» в период с сентября 2019 г. по декабрь 2020 г. С целью оценки эффективности технологии биполярной «мини» резектоскопии при внутриматочной патологии у женщин с различными формами бесплодия было обследовано 104 пациенток, которые были распределены по двум группам:

1 группа – пациентки с первичным бесплодием (41);

2 группа – пациентки с вторичным бесплодием (63).

В исследование вошли женщины в возрасте от 21 лет до 45 лет, средний возраст пациенток составил 31,5 лет.

Основной жалобой всех пациенток было отсутствие беременности при регулярной половой жизни в течение 1-10 лет. Нарушения менструального цикла отмечали 61 женщин, что составила 59%. Анализ клинико – анамнестических данных 104 женщин показал наличие первичного бесплодия у 40,0% пациенток, а вторичного – у 59%. У женщин с первичным и вторичным бесплодием после проведения мини гистерорезектоскопии (ГРС) самый низкий процент внутриматочной патологии составил гиперплазия эндометрия (0,9%) и частые или полные внутриматочные перегородки (0,9%). Субмукозная миома матки диагностирована у 3,2% пациенток, а в 12% случаях была внутриматочные синехии. Наибольшее число пациенток встречались с патологиями - хронический эндометрит (45%), полип эндометрия (38%). Таким образом, в исследуемых группах мы определили и установили после мини ГРС частоту внутриматочной патологии у женщин с различными формами бесплодия. Все хирургические манипуляции биполярной мини гистероскопии с резекцией производили без обезболивания в 43,2% случаев и в 56,8% - под местной анестезией.

Ключевые слова

мини гистерорезектоскопия, внутриматочная патология, различные формы бесплодия

Introduction

The basis for the development of modern healthcare remains the improvement of the organization of medical care. In the difficult conditions of economic transformations and deterioration of the health status of the population, improving the organization and improving the quality of gynecological care occupies one of the important places in the reform of the health system of the Republic of Kazakhstan [1].

One of the possible factors of infertility is intrauterine pathology. The frequency of detection of intrauterine pathology in the clinic of female infertility varies quite widely - from 8.5% to 62% according to various authors, which indicates the lack of systematic studies in the group of women with various forms of infertility and the need for further study [2, 3].

According to Boivin et al., 2007, it is shown that 72.4 million couples are infertile worldwide and that 40.5 million of them are currently seeking infertility treatment [4].

According to Maximova T. A. (2019), one of the leading causes of female infertility in the last decade is called intrauterine pathology. Diseases such as hyperplastic processes, endometrial polyps, endocervix pathology, intrauterine synechiae, submucous uterine fibroids, and adenomyosis are an urgent problem of gynecology - in 53.2% of women of reproductive age, including patients us-

ing assisted reproductive technologies [5, 6].

In the available literature, there are works concerning the frequency and structure of intrauterine pathology in patients with infertility of various origins. Thus, in patients with peritoneal factors of infertility, endometrial pathology was detected in 44.3% of cases. The most common pathology is endometrial polyp (20.3%). Submucous uterine fibroids were found in this group in 1.7%, chronic endometritis – 0,9% [7, 8, 9].

Another author also revealed a high incidence of intrauterine pathology in women with infertility of unknown origin - 37%. In this study group, the most common pathology was also endometrial polyp and endometrial hyperplasia (15.5% and 9.5%, respectively) [10, 11].

Objective: To evaluate the effectiveness of the introduction of a bipolar mini-resectoscope based on the study of the frequency of intrauterine pathology in women of reproductive age.

Material and methods

The volume of the material was used by patients aged 21 to 45 years (average age 31.5 years) who were treated in the Department of Gynecology of JSC "National Scientific Center of Surgery of A. N. Syzganov" in the period from September 2019 to December 2020.

The study included 104 patients with intrauterine pathology of reproductive age.

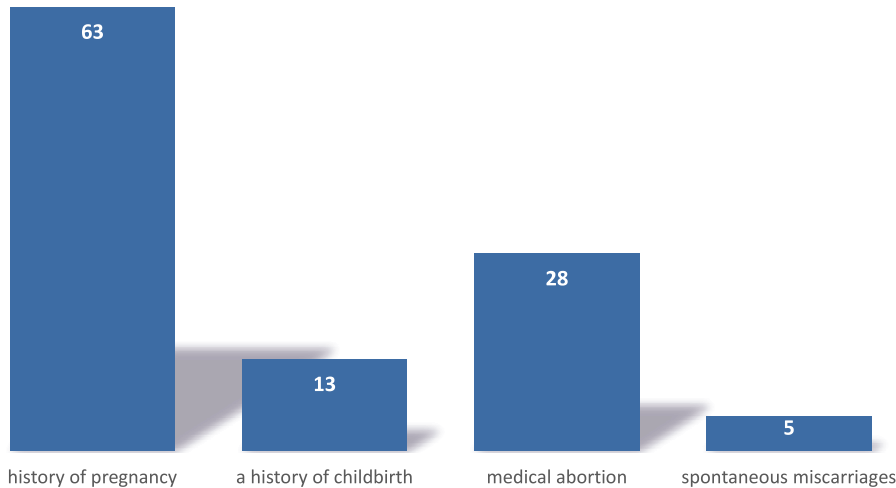


Figure 1. Frequency of reproductive function of the women studied

The duration of infertility in the patients was from 1 to 10 years (6.5 ± 0.5).

Depending on the factors of infertility, the patients were divided into groups:

- Group 1 – patients with primary infertility (41);
- Group 2 – patients with secondary infertility (63).

When including patients in the present study, absolute and relative indications and contraindications to bipolar "mini" resectoscopy were taken into account.

According to these indications and contraindications, the criteria for inclusion and exclusion of patients in the study were developed.

Clinical research methods: analysis of complaints, collection of anamnesis, objective examination, description of gynecological status.

When conducting clinical and laboratory research methods, the main material was venous blood, urine sediment, and vaginal smears in 104 examined women.

Pelvic ultrasound examinations were mandatory methods of examination of patients before and in the postoperative period, both in the hospital and in

the outpatient setting during the period of dynamic observation.

Statistical method of data processing using a program in Excel, calculating the average, standard deviation, the indicator of the reliability of differences in two groups, conducting a correlation analysis.

Results

The main complaint of all patients was the absence of pregnancy with regular sexual activity for 1-10 years. Menstrual disorders were observed in 61 women, which was 59%.

The analysis of clinical and anamnestic data of 104 women showed the presence of primary infertility in 40.0% of patients, and secondary infertility in 59%.

Figure 1 shows data on the distribution of patients with intrauterine pathologies by reproductive function.

As can be seen from Figure 1, the frequency of reproductive function of the studied women prevailed in the second group. In 63 cases, the women had a history of pregnancy, 13 births, 28 abortions, and 5 miscarriages.

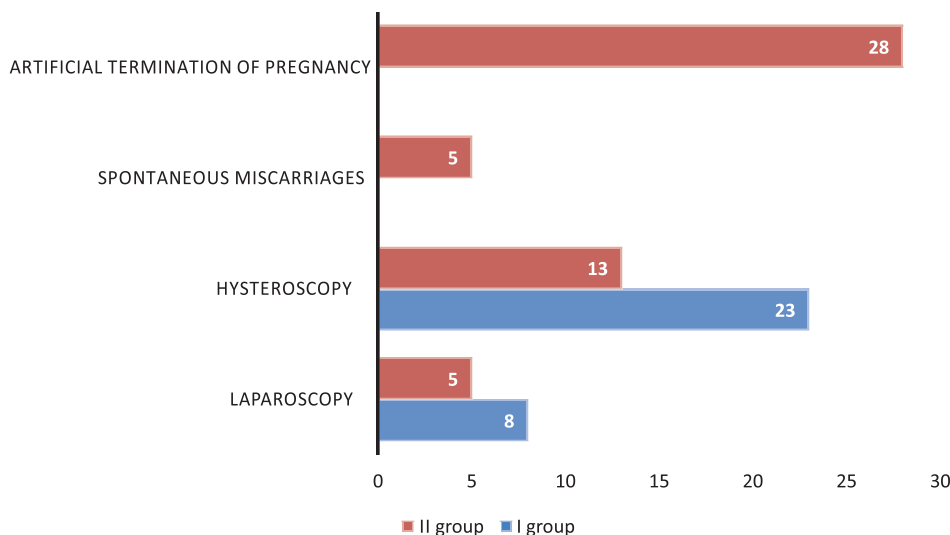
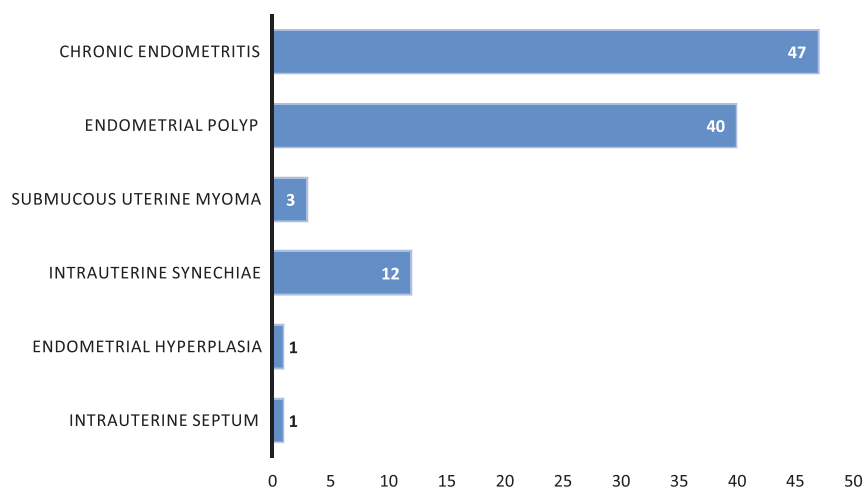


Figure 2 The frequency of therapeutic and diagnostic intrauterine surgical interventions

Figure 3.
Frequency of intrauterine pathology in women with various forms of infertility after mini-HRS



51 women had various medical and diagnostic intrauterine surgeries before applying to our clinic.

The given Figure demonstrates that no woman mentioned artificial termination of pregnancy in the first group, whereas 28 (45%) women had surgical procedures in the second. In addition only 5 women in group 2 suffered from spontaneous miscarriage (followed by curettage), which is 8%. Also, hysteroscopy prevails in 23 cases (56%) in group 1 and in 13 cases (21%) in group 2. If we talk about laparoscopy, there were 5 cases (12%) in the first group and 8 cases (13%) in the second.

Most of the women in the studied groups suffered from previous and concomitant gynecological diseases. With concomitant inflammatory diseases of the pelvic organs such as: vulvovaginitis, colpitis, cervicitis, chronic endometritis, chronic salpingo-oophoritis, endometrial hyperplasia, endometrial polyp, synechiae of the uterine cavity, uterine myoma, septum - there were 94 (91%) women.

In the studied groups, after mini-resectoscopy, intrauterine pathology was confirmed by a clinical diagnosis with biopsy.

All 104 patients with intrauterine pathology underwent mini-hysteroscopy (mini-HRS) with mandatory histological examination.

According to the figure, in women with primary and secondary infertility after mini-HRS, the lowest percentage of intrauterine pathology was endometrial hyperplasia (0.9%) and frequent or complete intrauterine septa (0.9%). Submucous uterine myoma was diagnosed in 3.2% of patients, and in 12% of cases there was intrauterine synechiae. The

largest number of patients met with pathologies - chronic endometritis (45%), endometrial polyp (38%). The incidence of intrauterine pathology according to clinical data among women with various forms of infertility was 74%.

Thus, after carrying out mini-HRS, we identified and established the frequency of intrauterine pathology in women with various forms of infertility - 74%

We have developed and successfully introduced into practice a fundamentally new method of surgical diagnosis and treatment of intrauterine pathology using bipolar mini-resectoscopy.

We removed all endometrial polyps up to 2 cm by the operative mini-hysteroscopy without anesthesia. If the polyp was larger than 2 cm, just by the method of mini-hysteroscopy. With intrauterine synechiae, all patients undergo dissection using the operative mini hysteroscopy. With a thin septum of the uterine cavity and habitual miscarriage, the dissection is performed using the method of operational mini hysteroscopy without anesthesia. In case of a thin septum of the uterine cavity in combination with infertility, dissection was performed using the method of operational mini-hysteroscopy.

As can be seen from the table, the efficiency of bipolar mini-hysteroscopy technology in women with intrauterine pathologies is 100%.

The degree of pain was determined according to the classification of the European Association of Hysteroscopists. All surgical manipulations of bipolar mini hysteroscopy with resection were per-

Table 1.
Efficiency of bipolar mini-hysteroscopy technology in the studied groups

Evaluation parameters	I group (n=41)	II group (n=63)	P
Pain level (VAS)	2,8±1,3	2,4±1,6	<0,01
Duration of surgery	12,52±1,8 min.	13,21±1,7 min.	< 0,01
Duration of incapacity for work	1 day	1 day	<0,01
Complications	no	no	
Relapse after surgery	no	no	

formed without anesthesia in 43.2% of cases and in 56.8% of cases under local anesthesia.

Only local anesthesia was used in our study. The choice of this method depended on the volume of the operation and the general health of the patient (increased anxiety, the presence of allergies or other concomitant diseases). We mainly used local anesthesia (cervical injections).

The duration of anesthesia in our manipulations ranged from 10 minutes to 30 minutes. All patients were admitted to the day hospital. The duration of surgery in group 1 ranged from 10 minutes to 15 minutes (an average of 12.52 ± 1.8 minutes), and in group 2, an average of 13.21 ± 1.7 minutes. The difference between the groups is statistically reliable ($p < 0.01$). The average duration of the opera-

tion for bipolar mini-hysteroscopy was 9.1 ± 1.3 minutes, and for mini-hysteroresectoscopy - 12.52 ± 1.8 minutes ($p < 0.01$). The difference is statistically authentic. There were no intra/postoperative complications in both groups. The recurrence rate after surgery was not observed during the year.

Conclusions

Thus, bipolar mini-resectoscopy technology is an effective outpatient procedure with better long-term results than traditional hysteroresectoscopy. The technology of bipolar mini-hysteroresectoscopy allows intrauterine operations to be performed at the day hospital level, therefore, the cost of treating women with intrauterine pathology is reduced in comparison with inpatient treatment.

References

1. Decree of the president of the republic of Kazakhstan № 176 from January 15, 2016 «On approval of the State Program for the Development of Healthcare of the Republic of Kazakhstan «Densaulyk» for 2016–2019 gody», about amendments to the Decree of the President of the Republic of Kazakhstan № 957 from 19 March, 2010
2. Abashidze, A.A. Methods for the rehabilitation of reproductive function in women with tubal-preitoneal infertility / A. A. Abashidze // medical and social examination and rehabilitation. - 2014. - №2.,
3. Avramenko, N.V. Endometriosis: pathogenesis, classification, diagnosis and modern aspects of therapy/ N. V. Avramenko // Patologh. - 2014. - №2 (31). - S. 4-11
4. PMID: 24067621 DOI: 10.1016/j.jmig.2013.07.023. Boivin J, Bunting L, Collins JA, Nygren KG. International estimate of the prevalence of infertility and treatment seeking. Potential need and demand for medical care for infertility, Hum Reprod. 2007;22:1506-12. PMID: 17376819 DOI:10.1093/humrep/dem046.
5. Agadzhanjan A.G. Comparative evaluation of the results of the combined use of transvaginal ultrasound, echohysterography, endometrial aspiration biopsy and diagnostic hysteroscopy in the diagnosis of intrauterine pathology. Materials of the 8th Scientific Forum "Mother and Child", M 2006; 310-311.
6. Intrauterine pathology. Clinic, hysteroscopic picture, diagnosis and treatment / E.B. Rudakova, T.Ju. Kurlenko, V.V. Davydov, V.P. Davydov - 2012 - 80 p.
7. Volkov V.G., Malyh N.E. Age features of endometrial pathology. Herald of new medical technologies. 2000. T. 7. NO 3-4. S. 109.;
8. Prakticheskij komitet amerikanskogo obshhestva po Reproduktivnaja medicina. Peregorodka matki: rukovodstvo. Fertil' Ster-il. 2016; 106:530-40. PMID: 27235766 DOI: 10.1016/j.fertnstert. 2016.05.014
9. American Society for Reproductive Medicine Practice Committee. Removal of fibroids with asymptomatic course of the disease Fertil Steril. 2017; 108:416-25. PMID:28865538 DOI: 10.1016/j.fertnstert.2017.06.034
10. Rikken JF, Kowalik CR, Emanuel MH, Mol BW, Van der Veen F, van Wely M, Goddijn M. Septum resection in women of reproductive age with an intrauterine septum. Kokrejnovskie Dannye- base Syst Rev. 2017;1:CD008576. PMID: 28093720 DOI: 10.1002/14651858.CD008576.pub4
11. Routine hysteroscopy before IVF- Montejru, CS. JBRA Assist. Uprek. | v. 23 | no 4| Oktjabr'-Nojabr'-Dekabr' / 2019