



Effectiveness of Drug Therapy in Abortion on Medical Indications in Hospital Conditions

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Abstract

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BACKGROUND: The model in the Specialized Hospital of Obstetrics and Gynecology in Varna is becoming more and more widespread. The medical abortion, as a means of choice for behavior in abortion on medical indications, in hospital conditions, after the opinion of the commission to a hospital institution with a profile of specialty gynecology, and in case of abortion on request in hospital or pre-hospital medical activity. In Europe, this model has been in place for 30 years, and clinical experience shows that complications and mortality are many times lower than with surgery.

MATERIALS AND METHODS: Conducted own survey for the period January 2021-July 2023 of 37 patients who went through a pregnancy termination committee on medical grounds.

RESULTS AND DISCUSSION: About 89.2% of cases have a positive opinion of the commission in the hospital structure. Patients with higher education had better outpatient follow-up ($\chi^2 = 12.662$, $p = 0.002$). The greatest effectiveness is the three-fold administration of a drug regimen between 6 and 12 h ($\chi^2 = 74.000$, $p = 0.000$) and the gestation period of 12–20 g.w. ($\chi^2 = 38.858$, $p = 0.025$), and single drug administration during pregnancy (8–13 g.w.) ($\chi^2 = 30.537$, $p = 0.006$) and effect up to the 6th h ($\chi^2 = 8.133$, $p = 0.004$).

CONCLUSION: The choice of a method of medical behavior is the result of a complex approach with regard to a number of factors related to pregnancy, general somatic status, and carried out diagnostic activities. An applied therapeutic approach reduces hospital costs, and the patient has a quick recovery period. Early and timely diagnosis and outpatient follow-up of patients in pre-hospital care are important informative values.

Introduction

Medical abortion is a safe method, as confirmed by a large study involving 16,173 patients with medical abortion [1], [2]. The safety of prolonged dosing has been established by several different studies [3], [4] targeting other indications-myoma, endometriosis, breast cancer, and meningioma. Medicated abortion is usually performed with a combination of two drugs [5], [6]: mifepristone (or another similar antiprogesterone) and misoprostol [7], [8]. This method is usually effective up to 10 weeks after the last menstruation, but the exact effectiveness can vary.

It is important to note that medical abortion can be associated with serious risks and side effects [9], [10], including:

- Prolonged and severe bleeding
- Infections
- Unsuccessful abortion, in which additional intervention may be required (surgical abortion)
- Allergic reactions from the administered medicines

All abortion procedures, including medical abortion, must be carried out under the supervision of qualified medical personnel who provide all necessary information and support [11], [12].

Materials and Methods

A retrospective study of the activity of the commission for termination of pregnancy on medical indications of a specialized obstetric and gynecological hospital in Varna with the third level of competence of the Department of Gynecology for the period I.2021–VII.2023 There were 37 cases.

The survey data and the results are processed and presented graphically through MS Word and Excel 2016. Data processing was carried out with the statistical product IBM SPSS 19.0. For statistical data processing, the following methods are used: Descriptive analysis, graphical analysis, and correlation analysis (Pearson correlation) are used to search for the statistical significance of the signs in the studied groups. Test χ^2 - to check hypotheses for the presence of a link between category variables.

Results and Discussion

For the period Apostille 2021–2023, through the commission for termination of pregnancy at a medical institution with the third level of competence of the gynecology department, 37 patients with different pathologies related to pregnancy passed.

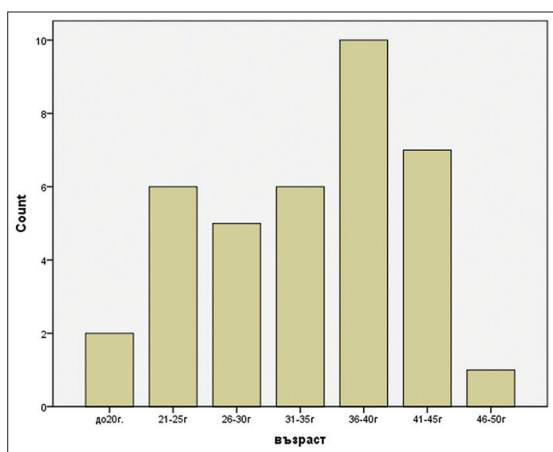


Figure 1: Distribution of patients by age

Demographic characteristics

The distribution of the sample by age and term of pregnancy is presented in Figures 1 and 2.

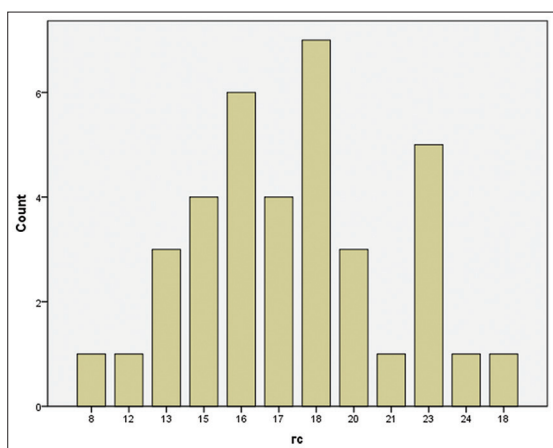


Figure 2: Distribution of patients according to the term of pregnancy

In terms of pregnancy sequence, 48.6% had a second pregnancy (Figure 3), and by education, 43.2% have higher education and 16.2% have primary education. The more highly educated patients performed detailed prenatal diagnostics in their outpatient follow-up ($\chi^2 = 12.622$, $p = 0.002$).

With age, pregnancies also increase, which is a natural dependence and desire for the performance of reproductive functions ($\chi^2 = 36.851$, $p = 0.005$). As women age, the percentage of accompanying diseases that have different origins increases - extragenic (genetic, endocrine, neurological) and genital (gynecological diseases, sterility) ($\chi^2 = 71.993$, $p = 0.014$). Of the 37 patients who passed, 89.2%

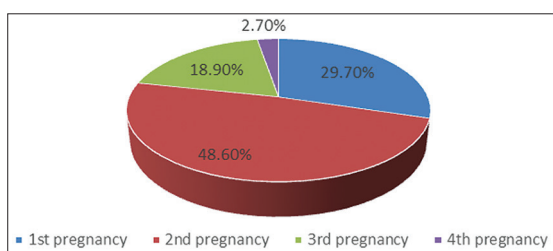


Figure 3: Order of pregnancy

received a positive opinion from the commission toward the medical institution.

Observed fetal pathology refers to serious genetic abnormalities, followed by abnormalities in late fetal development and persistent symptoms, especially in advanced pregnancy (Table 1).

Early diagnosis is leading in terms of medical behavior, according to the wishes of the pregnant woman and the serious economic and social consequences of the possible birth of a damaged child (Figure 4). Nearly 80/100 of the patients performed more than three diagnostic methods to determine the abnormality in fetal development ($\chi^2 = 13.243$, $p = 0.001$). All patients were given ultrasound diagnostics according to the MS guidelines for obstetrics and gynecology. The relationship between the age of the patients and the finding of an abnormality in fetal development is conditional ($\chi^2 = 98.534$, $p = 0.058$).

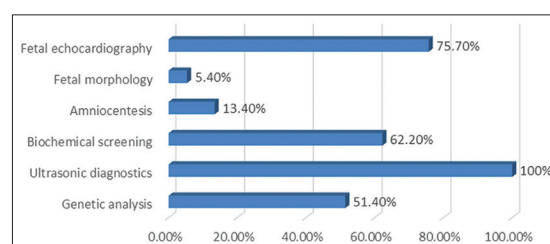


Figure 4: Diagnostic methods*. *% is >100% due to more than two diagnostic methods to establish/prove an abnormality in fetal development

Clinical behavior

In case of a positive opinion received by the Commission for termination of pregnancy on medical grounds, a medication scheme is applied according to the duration of the pregnancy and the condition of the patient, according to the instructions of the medical standard in obstetrics and gynecology from 2021. 75.6% of patients were given a three-fold schedule with Topogyne (Misoprostol). In 10.8% of cases, no scheme was applied due to the refusal of the commission and the lack of subsequent medical information on the outcome of pregnancy.

A 1-time application of Topogyne (Misoprostol) has the best effect in the early term of pregnancy between 8 and 13 g.w. ($\chi^2 = 30.537$, $p = 0.006$) and effect up to the 6th h ($\chi^2 = 8.133$, $p = 0.004$). The 3-time administration of the drug regimen showed an effect between 6 and 12 h ($\chi^2 = 74.000$, $p = 0.000$) and a gestation period of 12–20 g.w. ($\chi^2 = 38.858$, $p = 0.025$). No statistical association was observed between the sequence of pregnancy and the effect of the administered drug regimen ($\chi^2 = 2.873$, $p = 0.825$). The test of Kolmogorov-Smirnov confirms the importance of the relationship between the term of pregnancy and the time effect of the administered drug regimen ($p = 0.000$).

In 2.7%, it is done sectio parva, due to the inefficiency of the applied scheme and the large duration of pregnancy.

Table 1: Types of congenital malformations

Type of malformation	Frequency	Percent	Valid percent	Cumulative percent
Detected deviations				
Folo's tetralogy	1	2.7	2.7	2.7
Omphalocele/gastroschisis	1	2.7	2.7	5.4
Abnormality of the excretory system - Megacist	3	8.1	8.1	13.5
Polymalformative syndrome	6	16.2	16.2	29.7
Congenital heart disease malformation	3	8.1	8.1	37.8
Edwards syndrome	5	13.5	13.5	51.4
Klinefelter syndrome	1	2.7	2.7	54.1
Down syndrome (trisomy 21)	9	24.3	24.3	78.4
Defect in placental attachment	1	2.7	2.7	81.1
Hydrocephalus	1	2.7	2.7	83.8
Microcephaly	1	2.7	2.7	86.5
Gastroschisis	1	2.7	2.7	89.2
Niemann-pick disease (heterozygous change in gene SMPD1)	1	2.7	2.7	91.9
Not established	3	8.1	8.1	100.0
Total	37	100.0	100.0	

There is no correlation between the diagnosed pathology of the fetus and its sex ($\chi^2 = 17.157, p = 0.192$). All patients hospitalized after a positive opinion of the commission for termination of pregnancy underwent a full volume of diagnostic and therapeutic procedures, according to the instructions of the regulations (NHIF and Medical Standard for Obstetrics and Gynecology). The hospital stay is carried out by clinical Route 4-4.1 (up to 13 g.w.) and 4.2 (over 13 g.w.).

Conclusion

Medical abortion has both advantages and inconveniences (the risk of a lack of effect). It is a means of choice, avoiding surgical intervention, gives high security, given the nature of the application, and is less invasive. In Bulgaria, there is a marked resistance to innovative methods and technologies and to changing attitudes and behaviors. Medical abortion should become part of routine practice in pre-hospital and inpatient medical care because it has proven to be an effective and safe method of termination of pregnancy. Its advantages are undeniable, against the background of low risk and lack of invasiveness.

A good prenatal diagnosis is an important condition for early implementation of the necessary therapeutic procedures, which reduces the psychological effect on the family unit and allows for genetic and family consultation at reproductive age.

In recent years, the World Health Organization (WHO) has worked hard to improve the safety and quality of abortion as a procedure. The reason for this is the indisputable fact that almost all complications of abortion can be prevented through family planning, contraception, and high-quality service terminations of pregnancy. In this regard, the WHO has issued a specialized guide on "safe abortion," in which good practices are well visualized.

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