RESEARCH ON THE CAUSES OF NEED OF THERAPEUTIC ABORTION

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Keywords: *therapeutic abortion, pregnancy, fetal malformations*

Abstract: *Abortion means spontaneously or drug induction interruption of pregnancy (until 24 gestational weeks), referring only to nonviable pregnancy. In the present paper we will evaluate the causes that will lead to the need of medical abort. Materials and methods: We studied data of 135 cases of cadaveric pieces during the period 2010-2017 that came from the Obstetrics and Gynecology Section Nr. I Tîrgu-Mureş. Results: The subgroup of age at which therapeutic abortion is performed is 21 to 30 years; most of the patients come from the urban area. The most common medication in triggering and terminating pregnancy was Oxitocin. Most cases have fetal causes. Igeste and IIGest were the majority of the patients. Conclusions: Therapeutic abortion is the first intention in the case of malformed fetus and dead fetus.*

INTRODUCTION

Abortion means spontaneously or drug induction interruption of pregnancy (until 24 gestational weeks), referring only to nonviable pregnancy.

There is also abortion on demand, which is a legal procedure in Romania until 14 gestational weeks, but this is not the subject of our study. Decree law no. 1/26.12.1989, and Criminal law art.185. In the present paper we will evaluate the causes that will lead to the need of medical abort. The causes of therapeutic abortion are of two types: fetal and maternal.

Fetal: *Detectable echographic signals* at different gestational stages that are suspicious of genetic malformations or syndromes, are (1): of the *nervous system*; thickness of nuchal fold greater than 2.5 mm, presence or absence of nasal bone, anencephaly, spina bifida, hydrocephalus, myelomeningocel; of *the digestive system*: omphalocele, gastroschisis, intestinal atresia; *of the cardiac system*: complex cardiac malformations, hypoplasic ventricles, single ventricles; *of the genito-urinary apparatus*: polycystic kidney, renal hypertrophy (Potter syndrome - anamnios), bladder extrophy; fetal maternal isoimmunization - increased placental thickness greater than 6 cm, polyhydramnia, fetal ascites, fetal hydration to fetal hydrops.

Other fetal causes: the dead fetus of various causes; broken membranes with amniotic fluid loss - anamnios - loss of viability of conception product; other: achondroplasia, diaphragmatic hernia, etc. partial or total molar pregnancy.

Maternal: are *cardiovascular*: Dilated cardiomyopathy with heart failure, stroke, vascular aneurysms, arterio-venous anastomoses, pregnancy-induced hypertension; metabolic dysfunctions: unbalanced diabetes mellitus, hypothyroidism, other metabolic diseases; Maternal infections: local, Clamydia trachomatis, positive TORCH serology may lead to various fetal malformations; *Autoimmune diseases*: lupus, rheumatoid arthritis, Hashimoto's disease; *Neurological and psychiatric disorders*: uncontrolled medical epilepsy, schizophrenia, dementia, acute psychotic disorder, etc.; C*arrying out intense explorations in pregnancy* (eg, X-rays); *Drug treatments with teratogenic effects* (neuroleptics, antiepileptics, methotrexate), or various toxic (drugs, alcohol, smoke).

There may maternal medical conditions incompatible with wearing a pregnancy to term. In order to discontinue the course of drug-related pregnancy in the above-mentioned cases, multidisciplinary committees for joint decision and debate are held in such cases.

MATERIALS AND METHODS

We studied data of 135 cases of cadaveric pieces during the period 2010-2017 with the acceptance of the specialized commissions (Medical Ethics of the Emergency County Clinical Hospital from Tîrgu-Mureş and the Ethics Committee of the Scientific Research from UMF Tîrgu-Mureş) that came from the Obstetrics and Gynecology Section No. I Tîrgu-Mureş. We also had the patients' acceptance in a paper written by the hospital manager, that they agree with the incarnation of the deceased/aborted child or their use for scientific and research purposes.

This study was performed in correlation with fetal echographic aspects of the gestational age and double-test biologic data (bHCG, PAPP-A), triple test (AFP, HCG, uE3) or newer modern detection methods of fetal malformations and genetic syndromes by prenatal blood analyzes, the results being correlated with the age of pregnancy, type of pregnancy (single or multiple) (Harmony, Panorama, Prenatest).

In justified cases, amniocentesis (gestational group 17-21)(2) and fetal morphology (gestational group 22-24) were also used. It is possible to determine human karyotype by puncture biopsy of cortical villities, determining different genetic

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Article received on 20.10.2017 and accepted for publication on 21.12.2017
ACTA MEDICA TRANSILVANICA March 2018;23(1):74-76

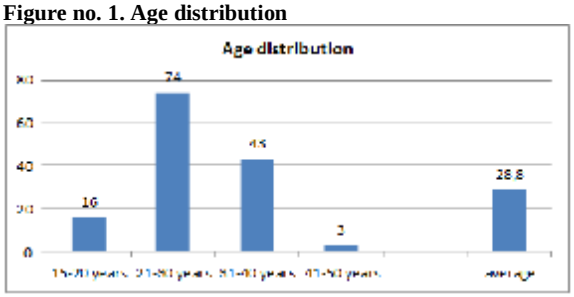
syndromes (trisomies 13, 18, 21, Turner syndrome - 45x0, Klinefelter - 47xxy syndrome).(3)

RESULTS

Our results were analyzed by age, environment (rural or urban), gestation, parity, gestational age, pre-diagnostic diagnosis and type of therapeutic treatment.

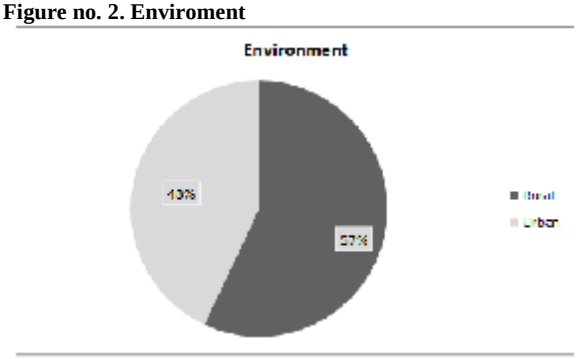
The average age of the patients was 21.8 years. Most patients is part of the 21-30 year subgroup (54.8%), about 1/3 belong to the subgroup 31-40 years (31.8%). Less cases were observed in the age group 15-20 years (11.8%) and 41-50 years (2.2%).

Figure no. 1. Age distribution



Most of the patients come from rural areas 57%, the rest of the urban area (43%).

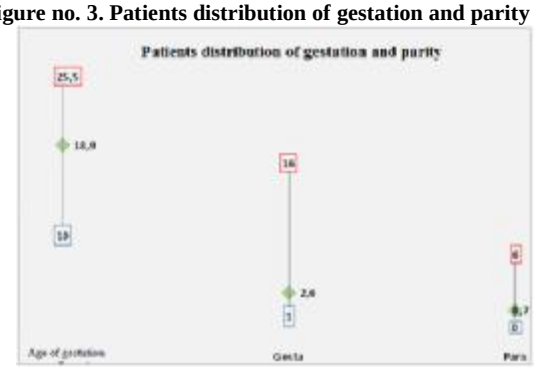
Figure no. 2. Enviroment



Studying the gestation and parity criteria we found a gestation from 1 to 16 with an average of 2.6 and a parity between 0 and 6 gestational weeks, averaging 0.7%.

The fetuses we studied had the gestational age between 10 and 25.5 weeks (those over 24 weeks were dead fetus) with an average of 18.9 weeks.

Figure no. 3. Patients distribution of gestation and parity



Oxystin (71%) was the medication used was for 96 patients, Mifegyne (20%) for 27 patients, Oxystin + Misorpostol (2.21%) for 3 patients; Mifepristone + Misorpostol (6.62%) for 9 patients; a case of hysterectomy (08%), in a pregnant woman (14 weeks with genital neoplasia).

Most of the causes are represented by fetal disorders-85% and 15% of maternal ones.

Figure no. 4. Therapeutic treatment

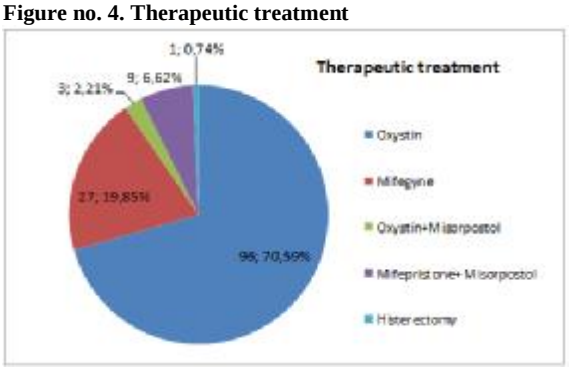
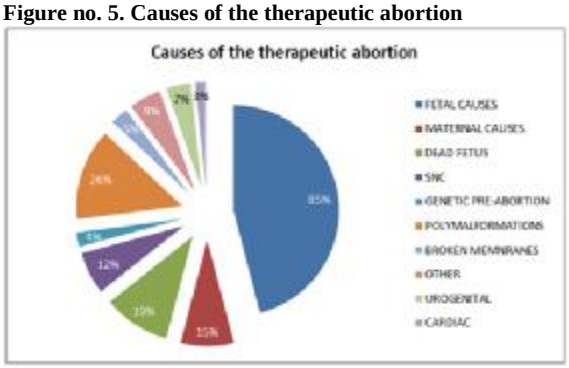


Figure no. 5. Causes of the therapeutic abortion



Causes of the therapeutic abortion

Concerning the fetal causes we found that: 33 fetuses of a total of 135 (26%) were polymalformate and came from rural area (20 fetuses - 60.6%) and the rest from the urban area (13 fetuses, 29.4%). Of the total number of the women we studied, we found that they had polymalformate fetuses: 26% from the rural area and 22% from the urban area. 87% of the polymalformate fetuses come from women belonging to the age group 21-30 years and 21.3% of the 31-40 age group. Subgroups aged 15-20 years and 41-50 years did not have polymalformate fetuses. By analyzing the gestation of the patients we noticed that out of 33 fetuses, 11 (33.3%) come from IIGeste, 9 (27%) come from IIIGeste, 7 (21%) come from IGesta, 3 (9%) come from IVGesta, 2 (6%) come from VIGesta, and one (3%) come from VIIIGesta.

Regarding parity, 15 fetuses (45.5%) come from nulliparous; 13 polymalformate originate from IP representing 39.4%, 3 (9%) fetuses that come from IIP. Of the total 25 dead fetuses, 17 (68%) are from rural patients and 8 (32%) are from urban patients. We find that from the total of 77 (57%) women coming from the rural area, 17 (22%) had dead fetuses, and 58 (43%) had 8 dead fetuses (32%). Most dead fetuses 14 (56%) belong to the subgroup aged 31-40 years. A total of 10 dead fetuses belong to the subgroup of 21-30 years. Only one dead fetus in a 17-year-old patient.

After the gestation of the patients we found out that out of the 25 dead fetuses, 10 (40%) come from IIGeste, 7 dead fetuses (28%) come from IIIGeste, 3 dead fetuses come from Igeste, 2 dead fetuses come from IVGeste, and a dead fetus at VI and VIIGeste.

Studying parity, we notice that most of the dead fetuses come from the IP, meaning 12 fetuses (48%). A number of 7 dead fetuses (28%) come from 0P; 4 dead fetuses (16%)

from IIP, and 2 dead fetuses (2-8%) come from IIIP.

The number of fetuses with malformations of the nervous system is of 16 (12%) out of the total of 135. The majority of them 11% (66%) come from rural patients and the rest 5 (34%) come from mothers belonging to the urban environment. Of the total number of women from rural areas, 77 (57%), 14.3% had fetuses with malformations of the nervous system, and 58% (43%) from urban patients, 9% had fetuses with malformations of the nervous system.

Most fetuses with this type of malformation belong to the subgroup of patients aged 21-30 years, namely 8 (50%); to the subgroup 31-40 years belong 5 patients (31%), and to the subgroup 15-20 years belong 3 patients (19%). The majority of women with fetuses having malformations of the nervous system are Igest (62%) followed by IIGeste (25%) and the majority (62%) are oP parity, 31% are primiparous. We consider that the other fetal causes (7% urogenital malformations, 4% genetic ones, 3% cardiac ones, 5% broken membranes and other categories are rarely found to be studied in the annexes of the paper.

DISCUSSIONS

In our study, we noticed that the subgroup of age at which therapeutic abortion is performed is 21 to 30 years; most of the patients come from the urban area. Contraindications in literature and in our study are generally coagulopathies, severe anemia, severe liver disease, severe cardiovascular disease or seizures that can not be controlled. Immediate therapeutic abortion complications are very rare, less than 1% and can be relatively easily prevented. The late ones are generally given by infections (Chlamydia).(4,5) Symptoms are generally hypogastric pain, subfebrility, diarrhea, bleeding, usually below 1%.(6) Anti-algic can be given. The ultrasound exam is generally performed 2-3 weeks after drug administration.(7,8)

Other authors recommend a pelvic clinical reassessment and from a biological point of view repeated serum beta-HCG determination.If there is no evidence of an abortion and the pregnancy is still intact, the woman is discharged from hospital and scheduled for examination within 1-2 weeks, and some doctors choose to repeat the prostaglandin dose (9) Instead, if incomplete abortion is found after clinical or ultrasound assessment, aspiration curettage (the most important complications of haemorrhage and infection) is usually recommended.(10,11) This drug method is generally administered up to 16 gestational weeks, and after this age, supportive doses of Oxytocin are administered intravenously.

After Ramsey 2010, the Oxytocin administration protocol begins with 50 IU in 500 ml of saline administered for 3 hours, followed by a one hour break, with progressive increments of up to 300 IU. Our protocol generally involves administering medication up to 16-17 weeks; after this age follows endovenoase infusion of Oxytocin or Oxytocin associated with medication. The rate of administration of Oxitocin is about 10-20 IU in 500 ml saline over a few hours (breaks between infusions are much higher, the dose may increase gradually, but sometimes it takes a few days to produce it abortion). Generally, in our clinic abortion is produced at 18-24 hours after administration. The important factors on which the success of the therapeutic abortion is dependent are: the age of the patient, gestation (the number of previous abortions), the parity (secondary or tertipary react more rapidly to substance administration, but multiparty represents a greater risk of hypotonia and major bleeding).

The conception product and the fetal annexes are always sent to the histopathological or genetic examination to confirm or deny malformations or genetic syndromes.

If combined therapy is applied (drugs + Oxitocin endovenos) (Metoclopramide), anti-thermal and anti-algic drugs (Paracetamol), antidiarrheal can be used to eliminate anti-emetic side effects. Increased attention should be paid to patients with scar womb.

CONCLUSIONS

Therapeutic abortion is the first intention in the case of malformed fetus and dead fetus. By around the gestation age 16-17 weeks, drug treatment is sufficient. After 17-weeks infusion of Oxitocin in progressive doses, are generally successful. Sometimes it is necessary to associate the two types of treatments.(12,13) The most common medication in triggering and terminating pregnancy was Oxitocin. Most cases have fetal causes. Igeste and IIGest were the majority of the patients, and the majority of the patients were oP and IP parity.

Most of the polymalformate fetuses come from rural, from 21-30 year old patients.

Most of the dead fetuses also come from rural areas (as number), but the percentage is higher from the urban year.

REFERENCES

1. Merz E. Ultrasound in Obstetrics and Gynecology. Second edition, Georg Thieme Verlag. 2007;vol I: 2-7, 2005; vol 2:1-3.
2. Kurjak A, Schaaps JP, Jauniaux E: Histological study of the materno-embriyonic interface in spontaneus abortion. Placenta. 1990;11:477-486.
3. Callen PW. Ultrasonography in Obstetrcs and Gynecology, fifth edition, Saunders Elsevier. 2008;3-12.
4. Madden T, Westhoff C. Rates of follow/up and repeat pregnancy in the 12 months after firts trimester induced abortion. Obstet Gynecol. 2009;113:663.
5. Reeves MD, Smith KJ, Creini MD. Contraceptive effectivennes of immediate compared with delayed insertion of intrauterine devices after abortion. Obstet Gynecol. 2007;109:1286.
6. Cleland L, Creinin M, Nucarola D, et al. Significant adverse events and outcomes after medical abortion. Obstet Gynecol. 2013;121(1):166.
7. Tzenk CR, Hwang JL, Au HK, et al. Sonographic patterns of the endometrium in in assessment of medical abortion outcomes. Contraception. 2013 Jul;88(1):153-9. doi: 10.1016/j.contraception.2012.09.029. Epub 2013 Mar 15.
8. Clark K, Bracken H, Tanenhaus J, et al. Alternatives to a routine follow-up visit for early medical abortion. Obstet Gynecol. 2010 Feb;115(2 Pt 1):264-72. doi: 10.1097/AOG.0b013e3181c996f3.
9. Dickinson J, Jennings B, Doherthy D. Comparison of three regimens using mifepristone and misiprostol for second trimester pregnancy termination. Am J Obstet Gynecol. 2014;210:S36.
10. Niinimäki M, Pouta A, Bloigu A, et al. Immediate complications after medical dose methtrrexate in pregnancies misdiagnosed as ectopic. Obstet Gynecol. 2009;114:795.
11. von Herzen H, Houng NTM, Piaggio G, et al. Misoprostol dose and route after mifeoristone foe early medical abortion: a randomised controlled non-inferiority trial. BJOG. 2010;117(10):1186.
12. Bednarek PH, Creinin MD, Reevs MF, et al. Immediate versus delayed IUD inse4rtion after uterine aspiration. N Engl j Med. 2011;364(21):2208.
13. Shimoni N, Davis A, Ramos M, et al. Timing of copper intrauterine device insertion after medical abortion. Obstet Gynecol. 2011;118(3):623.