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Pregnant women suffering from uterine fibroids

Abstract

Introduction. Uterine fibroids are the most frequent benign tumors affecting sexual organs in women. It is estimated that they affect 20% of the female population, with the frequency in pregnant women ranging between 0.1-5%. In spite of the progress in the field of medicine, the actual cause of uterine fibroids has yet to be discovered.

Aim. Analysis of the recent methods of dealing with uterine fibroids during pregnancy.

Material and methods. A review of literature about dealing with pregnant, lying-in and parturient women suffering from uterine fibroids.

Results. The research studies by Aydeniz, Vergani, Rice showed that cesarean sections are much more frequent in pregnant women with uterine fibroids than in control group (52.9% vs 27.9%; 23% vs 12%; 35.1% vs 21.5%). However, it was shown that the rate of cesarean sections was much higher in women with uterine fibroids located in the lower part of the uterus than in the fundus uteri (respectively 39% and 18%). Also, the rate increased when the diameter of the fibroid exceeded 5 cm, unlike in case of those smaller than 5 cm (respectively 35% and 17%).

Conclusions. 1.The number of cesarean sections in women with uterine fibroids is higher than in control group. 2.The frequency of cesarean sections in pregnancies with uterine fibroids depends on their position and size. 3.There is no relationship between the number of complications and the amount of fibroids in pregnant women. 4.There is no agreement concerning the recommendations for removing the fibroid during cesarean section.

Keywords: uterine fibroids, pregnancy, women.

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INTRODUCTION

The course of pregnancy in women with uterine fibroids is the main subject of this research. The issue sparks much controversy, particularly when it comes to implementing surgical treatment of uterine fibroids. In order to discuss this further, the disease etiology, along with the opinions of other authors, needs to be analyzed.

At the moment, there is a surge in the number of women becoming pregnant in their 30s and 40s. This is mainly due to lifestyle changes, as well as the fact that women are becoming increasingly focused on pursuing their career goals. The latter obviously translates into a heightened risk of uterine fibroids. This, in turn, leads to further systemic complications during pregnancy, causing a threat both to the woman and her child [1].

Uterine fibroids are the most frequent benign tumors affecting sexual organs in women. It is estimated that they happen in some 20% of the female population, with the frequency in pregnant women ranging between 0.1-5% [2,3]. Furthermore, fibroids of a larger size can lead to further complications during pregnancy whilst smaller or subserosal fibroids exert no influence over the course of pregnancy, childbirth or childbed whatsoever [4].

In spite of the progress in the field of medicine, the actual cause of uterine fibroids has yet to be discovered. However, it is known that both estrogens and progesterone (which has been proven recently) have some influence over the uterine fibroid etiology. Researchers have noticed that women undergoing a progesterone therapy or cured with medroxyprogesterone acetate report an increase in both mitotic and cellular activity [1,5,6]. There are also other factors predisposing the appearance of uterine fibroids. They include: African-American ethnicity, bad obstetric history, early menstruation, using oral contraceptives between the ages of 13 to 16 year of life, using an Intra Uterine Device, obesity, excessive use of alcohol, or eating too much red meat. There are factors that can decrease the risk, like: having served birth at least

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once, early menopause and tobacco smoking [7-9]. This is only a confirmation of a hypothesis concerning the relationship between a permanent secretion of estrogens and the development of these tumors. Numerous practitioners believe that women suffering from uterine fibroids must not use oral contraceptives. Yet, various authors claim that it is the use of that drug during the adolescence period (between the ages of 13 and 16) [10-12]. In reality, though, using oral contraceptives can prove to be a successful protection from fibroids which is directly proportional to the amount of time they are used [11,12]. It needs emphasizing that both pregnancy and the use of oral contraceptives significantly increase the estrogen and progesterone levels but it lowers the risk of uterine fibroids in these cases [13].

The medical ultrasound remains the basic diagnostics method for pregnant women. Some authors emphasize that in up to 50% of cases, it is possible to recognize a fibroid using clinical examination methods only, particularly in case their diameter is at least 5 cm. A description of fibroids in pregnant women should include: their size, structure, location against all the other parts of the uterus (e.g. fundus, lower part, uterine body) and their walls (cervical fibroids, subserosal, intramural), number of fibroids and their position against the placenta. This diagnostic method allows to determine whether a particular woman faces the risk of complications [1,14,15]. A clinical image of uterine fibroids is dependent on their amount, size and their growth rate. In most cases, this process happens asymptomatically. Many times, the first symptoms include pains around the abdominal cavity, affecting approximately 10% of pregnant women. Such symptoms require administering non-steroidal anti -inflammatory drugs or even narcotic painkillers. They start to appear when the size of the tumor exceeds 3 cm which could be a result of degenerative changes in fibroids, which in turn leads to some alterations in their vascularization, secondary infection or even further malignancies [1,16,17].

AIM

Analysis of up-to-date management with uterine fibroids during pregnancy.

MATERIAL AND METHODS

A review of literature about dealing with pregnant, lying-in and parturient women suffering from uterine fibroids.

RESULTS

The fibroids can start to increase during the 1st trimester of pregnancy, up to the 10th week. This is caused by edemas and degenerative changes, unlike it is the case with periods outside pregnancy when the tumor increase is caused by a proliferation of muscular fiber and connective tissue [2,18,19]. The fibroids tend to decrease in size during childbirth [20].

It needs emphasizing that submucosal fibroids increase in size, entering the uterine cavity and decreasing its size can lead to an incorrect position of the fetus or even cause a premature birth [1,21]. The risk of such complications definitely increases when the diameter of the fibroid exceeds 3 cm [21,22]. Furthermore, most authors claim that the fibroids located right under the placenta and staying in direct contact with it might cause a premature disintegration. The fibroids located under the placental fiber can decrease the amount of blood transported to the placenta which leads to ischemia, necrotic lesions and premature disintegration [21]. Rice et al studied 93 pregnant women suffering from uterine fibroids and they found out that 57% of women experienced a premature disintegration (located somewhere near the tumor), whilst in 2.5% of pregnant women it happened when it was outside the fibroid [1,21]. The findings by Aydeniz et al suggest that in women reporting uterine fibroids located under the placenta, there is a risk of a huge distraction of the flow between the uterus, the placenta and the fetus. This happened in 14% (against 6.6% in case of a control group). It can lead to intrauterine growth restriction [23].

Operational treatment of uterine fibroids still sparks a lot of controversy. However, if a pregnant woman suffers from pain caused by degenerative changes or in case there is a sprained fibroid, they have to be removed immediately [17,24]. Mollica et al point to the following factors as the guidelines for removing the fibroids: recurrent pains, fibroids' increasing in size, the presence of fibroids of huge diameters, as well as with fibroids cause a distortion of the placenta. It needs emphasizing that removing the fibroids should be conducted in the early stages of pregnancy, since there is a lowered risk of any complications. Moreover, a group of pregnant women undergoing operational treatment reported no stillbirth, unlike the women undergoing a conservative treatment (13.6%) [1,24]. There are opponents of removing fibroids during pregnancy and they claim that such procedures can lead to stillbirth or premature birth. Other than that, removing the fibroids from the walls of the uterus can lead to a hemorrhage, further causing a total removal of the uterus or intrauterine death [2,18]. Conservative treatment of uterine fibroids in pregnancy is rather limited, mostly because the majority of drugs (for instance, Gonadotropin-releasing hormone analogues) are forbidden. Therefore, there is some research going on, focused on including Vitamin E in treating uterine fibroids during the early stages of pregnancy [25]. The location of fibroids against other body parts is also important. For example, uterine fibroids developing around the cervix and the lower part of the uterus can make natural birth impossible. The fibroids located on the frontal wall of the uterus can move further up, without the risk of becoming an interruption for birth. The situation changes when the fibroids located on the back wall of the uterus start to move. Uterine fibroids can cause an incorrect position of the fetus and interrupt the uterine activity during childbirth. This may lead to an increase in the number of cesarean sections which is confirmed by Aydeniz, Vergani, Rice et al. Aydeniz showed that cesarean sections are much more popular in pregnant women with uterine fibroids (52.9% vs 27.9% in the control group). Vergani showed similar findings. The number of cesarean sections in pregnant women with uterine fibroids reached 23% (against 12% in the control group.) There was no relationship between the number of complications and the amount of fibroids in pregnant women. However, it was shown that the rate of cesarean sections was much higher in women with uterine fibroids located in the lower

part of the uterus than in the fundus uteri (respectively 39% and 18%). Also, the rate increased when the diameter of the fibroid exceeded 5 cm, unlike in case of those smaller than 5 cm (respectively 35% and 17%). According to the articles mentioned above, the frequency of cesarean sections depends on the position and size of the fibroids [26]. The research by Rice et al is also significant here. They noticed that the number of cesarean sections in women with uterine fibroids is higher than in control group (35.1% vs 21.5% respectively). The childbirth in women with uterine fibroids more frequently lead to the use of vacuum (5.3% unlike 0.6%). Rice also claims that the following factors should be used as requirements for cesarean section: the risk of asphyxia, premature disintegration of the placenta, incorrect location of the fetus, cervix distortion [21]. There is still no agreement concerning the recommendations for removing the fibroid during cesarean section. Some authors claim that these have to be removed while others claim that they should not. The former point to the fact that opening the abdomen once again increases the risk of an operation and also prevents the development of any necrotic changes or infections [15,18,25,27]. Buttram and Derwich emphasize that removing the fibroids should take place only if these are subserosal fibroids located around the incision line, show necrosis symptoms or bleed [14,18]. In addition, there is a risk that pregnant women suffering from uterine fibroids can experience bleeding during the third period of childbirth which might be caused by the shrinking of the uterine muscle. In case the uterine fibroids develop under the retained placenta, removing them can lead to destroying the wall of the uterus which may in turn lead to excessive bleeding [21]. During the postpartum period, the uterus might start to shrink which could lead to an ischemic necrosis of fibroids and this could result to strong pains or peritoneal signs. Also, uterine fibroids can lead to hindered involution during the postpartum period. In case they are located in the lower part of the uterus, they can lead to an appearance of putrefied feces in the uterine cavity that can lead to infection or septic shock [18]. In order to avoid such complications, some authors suggest removing the fibroids during the cesarean section. However, this method is not widely used by practitioners [2,14].

CONCLUSIONS

1. The number of cesarean sections in women with uterine fibroids is higher than in the control group.
2. The frequency of cesarean sections in pregnancies with uterine fibroids depends on the position and size of them.
3. There is no relationship between the number of complications and the amount of fibroids in pregnant women
4. There is no agreement concerning the recommendations for removing the fibroid during cesarean section.

According to the authors, fulfilling these requirements brings about some positive results and allows for preventing or even avoiding threats of that type.

REFERENCES

1. Woytoń J, Tomiałowicz M, Florjański J. Mięśniaki macicy w ciąży. Ginekol Położ. 2002;73(4):301-6.
2. Rasmussen KL, Knudsen HJ. Effect of uterine fibromas on pregnancy. Ugeskr Laeger. 1994;156:7668-70.
3. Roberts WE, Fulp KS, Morrison JC, Martin JN Jr. The impact of leiomyomas in pregnancy. Aust NZ J Obest Gyn. 1999;39(1):43-7.
4. Reroń A, Jaworski A, Pośpiech K. Mięśniaki macicy u kobiet ciężarnych. Perinatol Neonatol Ginekol. 2009;2(2):109-12.
5. Rein M, Barbieri R, Friedman A. Progesterone: A critical role in the pathogenesis of uterine myomas. Am J Obstet Gynecol.1995;172:4-8.
6. Vij U. Progestin and antiprogestin interactions with progesterone receptors in human myomas. Int J Gynecol Obstet. 1990;31:347-53.
7. Parazzini F, La Vecchia C, Negri E, et al. Epidemiologic characteristics of women with uterine fibroids: a case control study. Obstet Gynecol. 1988;72:853-7.
8. Silva PD, Sloane KA. Uterine leiomyomata: an overview. The Female Patient. 1992;17:49-56.
9. Zaloudek C, Norrsis HJ. Mesenchymal tumours of the uterus. In: RJ. Kurman (ed). Blaustein s Pathology of the female Genital Tract. 4 end. New York, NY: Springer Verlag, Inc; 1994. p. 487-528.
10. Cramer SF, Patel A. The frequency of uterine leiomyomas. Am J Clin Pathol. 1990;94:435-8. (Level II-3).
11. Reroń A, Huras H. Etiopatogeneza mięśniaków macicy i ich wpływ na płodność i przebieg ciąży. Ginekol Położ. 2008;2(8):49-57.
12. Ross RK, Pike MC, Vessey MP, et al. Risk factors for uterine fibroids: reduced risk associated with oral contraceptives BMJ. 1986;293(6543):359-62.
13. Stewart EA. Uterine fibroids. Lancet. 2001;357:293-8.
14. Buttram VC Jr, Snabes MC. Indications for myomectomy. Semin Reprod Endocrinol. 1992;10:378-89.
15. Exacoutson C, Rosati P. Ultrasound diagnosis of uterine myomas and complications in pregnancy. Obstet Gynecol. 1993;82:97-101.
16. Zacur HA, Alvarez Murphy A, Tulandi T. Mięśniaki macicy postępy w diagnostyce i terapii. Ginekol po Dyplomie. 2000;2:10-9.
17. Wittich AC, Salminem Er, Yancey MK, Markenson GR. Myomectomy during early pregnancy. Mil Med. 2000;165(2):162-4.
18. Derwich K, Pawelczyk L, Opala T, Pisarski T. Mięśniaki macicy. Medipress Ginekol. 1996;2:6-13.
19. Rossati P. The volumetric changens of uterine myomas in pregnancy. Radiol Med (Torino). 1995;90:269-71.
20. Rossati P, Exacoustos C, Mancuso S. Longitudinal evaluation of uterine myoma growth during pregnancy. A sonographic study. J Ultrasound Med. 1992;11:511-5.
21. Rice JP, Kay HH, Mahony BS. The clinical significance of uterine leiomyomas in pregnancy. Am J Obest Gynecol. 1989;160:1212-6.
22. Rock JA, Thompson JD. Leiomyomata uteri and myomectomy. In: The Lindes Operative Gynecology.8 ed. Philadelphia, Pa: Lippincott-Raven; 1997. p. 731-3.
23. Aydeniz B, Wallwiener D, Kocer C, et al. Der Stellenwert myombedingter Komplikationem in der Schwangerschaft. Eine vergleichende Analyse von Schwangerschaftsverlaufen mit und ohne Myomerkrankurg. Geburtshilfe Neonatol. 1998;202:154-8.
24. Mollica G., Pittini L, Minganti E, et al. Elective uterine myomectomy in pregnant women. Clin Exp Obstet Gynecol. 1996;23(3):168-72.
25. Fruscella L, Ciaglia EM, Danti M. Vitamin E in the treatment of pregnancy complicated by uterine myoma. Minerva Ginecol. 1997;49:175-9.
26. Vergani P, Ghidini A, Strobelt N, et al. Do uterine leiomyomas influence pregnancy outcome? Am J Perinatol. 1994;11(5):356-8.
27. Febo G, Tessarolo M, Leo L, et al. Surgical management of leiomyomata in pregnancy. Clin Exp Obstet Gynecol. 1997;24(2):76-8.

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