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EDITORIAL AND PERSPECTIVE

Endometriosis and major obstetrical complications

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While endometriosis is a lesion defined by the presence of endometrium-like tissue outside the uterus, it also shows a variable response to ovarian steroids by proliferation, decidualization, desquamation, and bleeding and at the end of reproductive life by atrophy. In the non-treated control arms of six randomized trials, endometriosis was progressive in one third of patients and stable in another one third, whereas it had disappeared at the time of second-look laparoscopy in the remaining one third [1]. During treatment with progestogens, lesions may become decidualized and small lesions, even invisible. Pregnancy has been suggested as the optimal prophylactic treatment for endometriosis as symptoms and signs regress during gestation and for varying periods thereafter. The regression is probably due to a combination of anovulation and amenorrhea as well as decidualization of functional endometriotic tissue resulting in apoptosis and loss of cells. For this reason, Kistner [2] advocated in 1975 pseudopregnancy for 6 months as the treatment of choice. In addition, he recommended short periods of pseudopregnancy after conservative surgery if not all areas of endometriosis could be excised, expecting that 40–50% of these patients became pregnant within 24 months.

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Today, the relationship between endometriosis and pregnancy appears to be more complex. First, spontaneous hemoperitoneum in pregnancy (SHiP) has been recognized as a relatively rare complication occurring during the second half of pregnancy and resulting in a high fetal mortality rate of over 30%. In recent reports, SHiP is increasingly linked with bleeding of an endometriotic implant [3–5]. The complication may occur in pregnancy after in vitro fertilization as well as excisional surgery [6, 7]. Although endometriosis may appear invasive and destructive [8], SHiP is, in most cases, caused by bleeding of superficial lesions on the parametrium or the uterus [9]. When the diagnosis of SHiP is delayed, fetal mortality remains high. On the other hand, early diagnosis and coagulation of the hemorrhagic site may not only save the pregnancy but also, in preterm cases, allow continuation of pregnancy till term [9].

Secondly, recent publications indicate that endometriosis increases the risk of late miscarriage and preterm birth [10–12]. Placental bed biopsy studies by Kim et al. [13, 14] have shown that preterm birth with or without rupture of the membranes is associated with incomplete transformation of the uteroplacental arteries. The findings suggest that women with endometriosis are at risk for defective deep placentation and decidual ischemia [15]. Retrospective studies have shown conflicting data on the association between endometriosis and the risk of preeclampsia [16, 17]. Therefore, prospective clinical and pathological studies are needed to determine whether women with endometriosis are at increased risk of major obstetrical complications including preterm birth, preeclampsia, and small-for-gestation age. In view of the complexity of endometriosis, the therapeutic approach in endometriosis should be “problem-oriented” and not “lesion-oriented” [18].

References

1. Evers JLH, Dunselman GAJ, Groothuis P (2005) Now you see them, now you don't. Fert Steril 84:31–32
2. Kistner RW (1975) Management of endometriosis in the infertile patient. Fertil Steril 26:1151–1166
3. Alabi C, Evbuomwan I, Attwood S, Brady J (2007) Recurrent haemorrhagic ascites secondary to endometriosis: case report. Gynecol Surg 4:285–287
4. Chiodo I, Somigliana E, Dousset B, Chapron C (2008) Urohemoperitoneum during pregnancy with consequent fetal death in a patient with deep endometriosis. J Minim Invasive Gynecol 15:202–204
5. Fiadjoe P, Thomas-Phillips A, Reddy K (2008) Massive haemoperitoneum due to uterine artery erosion by endometriosis and a review of the literature. Gynecol Surg 5:133–135
6. Zhang Y, Zhao Y, Wei Y, Li R, Qiao J (2009) Spontaneous rupture of subserous uterine veins during late pregnancy after in vitro fertilization. Fert Steril 92:395.e13–395.e16
7. Wada S, Yoshiyuki F, Fujino T, Sato C (2009) Uterine vein rupture at delivery as a delayed consequence of laparoscopic surgery for endometriosis: a case report. J Minim Invasive Gynecol 16:510–512
8. English J, Baig K, Liston T, Hudelist G (2008) Diagnosis and laparoscopic treatment of an unusual case of advanced extragenital endometriosis. Gynecol Surg 5:45–47
9. Brosens IA, Fusi L, Brosens JJ (2009) Endometriosis is a risk factor for spontaneous hemoperitoneum during pregnancy. Fert Steril 92:1243–1245
10. Matalliotakis I, Cakmak H, Dermitzaki D, Zervoudis S, Goumenou A, Fragouli Y (2008) Increased rate of endometriosis and spontaneous abortion in an in vitro fertilization program: no correlation with epidemiological factors. Gynecol Endocrin 24:194–198
11. Stephansson O, Kieler H, Granath F, Falconer H (2009) Endometriosis, assisted reproduction technology, and risk of adverse pregnancy outcome. Hum Reprod 24:2341–2347
12. Fernando S, Breheny S, Jaques AM, Halliday JL, Baker G, Healy D (2009) Preterm birth, ovarian endometriomata, and assisted reproduction technologies. Fertil Steril 91:325–330
13. Kim YM, Chaiworapongsa T, Gomez R, Bujold E, Yoon BH, Rotmensch S et al (2002) Failure of physiologic transformation of the spiral arteries in the placental bed in preterm premature rupture of membranes. Am J Obstet Gynecol 187:1137–1142
14. Kim YM, Bujold E, Chaiworapongsa T, Gomez R, Yoon BH, Thaler HT et al (2003) Failure of physiologic transformation of the spiral arteries in patients with preterm labor and intact membranes. Am J Obstet Gynecol 189:1063–1069
15. Arias F, Victoria A, Cho K, Kraus F (1997) Placental histology and clinical characteristics of patients with preterm premature rupture of membranes. Obstet Gynecol 89:265–271
16. Brosens IA, De Sutter P, Hamerlynck T, Imeraj L, Yao Z, Cloke B, Brosens JJ, Dhont M (2007) Endometriosis is associated with a decreased risk of pre-eclampsia. Hum Reprod 22:1725–1729
17. Hadfield RM, Lain SJ, Raynes-Greenow CH, Morris JM, Roberts CL (2009) Is there an association between endometriosis and the risk of pre-eclampsia? A population based study. Hum Reprod 24:2348–2352
18. Pellicer A (2009) The therapeutic approach should be "problem-oriented" and not "lesion-oriented". Gynecol Surg 6:291–292