

## Pregnancy and Obesity: Facts and Complications

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### Review Article

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**Abstract:** The obesity, factor of morbidity and mortality, is considered as a real health public problem. In gynecology, its consequences on the fertility and the contraception are severing and the obesity is at the origin of important obstetric complications that must make consider these pregnancies as at risk. Our practices have to take into account these complications by assuring an adapted and premature care to improve the maternal and neonatal outcomes.

**Keywords:** Obesity, Labor, Delivery.

### INTRODUCTION

According to the Obepil survey conducted between 1997 and 2012, the prevalence of obesity and overweight has increased significantly among women of childbearing age, currently less than 2/3 of these women are of normal weight, so Problems related to overweight are among the most frequently encountered by those involved in the management of pregnancy, obesity is accompanied by profound alterations in the general and hormonal metabolism [3, 6]. Weight gain during pregnancy is a complex physiological process that accompanies increased fetal weight, during normal pregnancy weight gain ranges from 10 kg to 17 kg [7]. It is based on the Body Mass Index (BMI), which is used to estimate a person's corpulence by the ratio of body weight (in kg) to the square of height (in meters). Defined different classes of BMI (BMI <18.5: underweight, BMI <25: normal weight, 25 BMI <30 overweight, 30 BMI <35: obesity class I, 35 BMI <40: obese class II or severe 40: obesity class III or massive) [8].

### DISCUSSION

It has been known for many years that obesity is involved in female reproduction: the risk of early puberty is higher among obese girls; obesity is an aggravating factor of a possible underlying polycystic ovary syndrome. On the other hand, these women have an increase in the number of miscarriages (the mechanisms that explain these disturbances are multifactorial, complex), finally they have a decrease in fertility with impaired results of 'AMP [1, 2, 8].

Obesity induces changes in the glucido-lipid metabolism but also hormonal, it causes fertility disorders in women, overweight and obesity are also a brake to lactation given a delay in the initiation of lactogens [3].

A synthesis of obstetric complications related to maternal obesity and factors in optimizing the course of pregnancy in these patients:

### DURING PREGNANCY

#### Maternal complications

During pregnancy, it has been clearly demonstrated that obesity is an independent risk factor for the onset of pregnancy-related hypertension or preeclampsia, endothelial dysfunction due to insulin resistance and a direct effect of hypertension. Obesity on implantation may explain the occurrence of these complications, reflecting a phenomenon of placental insufficiency [8].

Physiologically, in all pregnant women, there is a tendency for insulin resistance from the second trimester of pregnancy. The existence of a hyperinsulinism with insulin resistance in case of obesity thus favors the occurrence of a GD, moreover, there is a linear relation between the increase of the BMI and the risk of appearance of a GD [3,4,8].

Pregnancy is characterized by a decrease in fibrinolysis and an increase in coagulation factors causing a procoagulant condition. Obesity increases the risk of venous thrombosis by a factor of 2 to 5 by promoting venous stasis, by increasing blood viscosity

and activation of coagulation and by generating a pro-inflammatory state that is a source of endothelial dysfunction (4.8)

### Fetal complications

Pregnancy in obese women is accompanied by a high rate of fetal macrosomia, regardless of the notion of GD. The risk of macrosomia depends, on the one hand, on the previous weight and, on the other hand, weight gain during pregnancy. Weight gain of more than 14 kg in obese patients increases the risk of having a child with a macrosomia by 2 to 3 times [10].

In case of obesity, there is a higher rate of congenital malformations including the frequency of abnormalities of closure of the neural tube is increased is also the risk of omphalocele, cardiac anomaly and polymalformative syndrome increased in cases of maternal obesity. Maternal obesity is associated with an increased risk of in Fetal death in utero (FDIU) and early neonatal death [8,10].

### DURING THE LABOR

Post-term Pregnancy is more common in obese patients. Labor induction rates are also increased, with more failure than in normal weight patients. The duration of labor is increased, which may explain a more frequent use of oxytocin. The use of an instrumental extraction is also more frequent, and the risk of shoulder dystocia is multiplied by a factor 2 to 3, increasing the risk of neonatal trauma, especially fracture, brachial-obstetric plexus or perinatal anoxia [9,10]. In the obese woman, there are more therapeutic labor inductions and a higher rate of cesarean section, especially for foeto-pelvic disproportion, but also for fetal distress and failure triggering [5].

Equipment (delivery beds, intervention tables) adapted to obesity are necessary in the labor room. It is also recommended to write a procedure of care in maternity wards. It is necessary to have easy access to an ultrasound system to guide the identification of the epidural space but also to set up peripheral or central venous routes. The use of invasive monitoring of blood pressure is also more common. Care teams should be trained in the management of obese patients, also highlighting the need to preserve the dignity of women. Appropriate compression stockings, pneumatic compression systems and drug thromboprophylaxis should be used to prevent thromboembolic complications [6].

### DURING THE POST-PARTUM

Que la naissance ait lieu par voie vaginale ou par césarienne, il existe un risque accru de complications du post-partum. La fréquence des hémorragies du post-partum est augmentée, contribuant, avec l'augmentation du taux de césarienne, à un risque

d'anémie plus important. Les complications infectieuses sont également majorées : les patientes obèses présentent plus d'infections urinaires, d'infections vaginales et d'abcès de paroi. Enfin, le post-partum représente la période la plus à risque de complication thromboemboliques, en particulier en cas de naissance par césarienne [8].

Whether birth occurs vaginally or by cesarean section, there is an increased risk of postpartum complications. The frequency of postpartum haemorrhage is increased, contributing, with the increase in caesarean section, to an important risk of anemia. Infectious complications are also increased: obese patients have more urinary tract infections, vaginal infections and wall abscess. Finally, the postpartum period is the most at risk for thromboembolic complications, especially in cases of cesarean birth [8].

### CONCLUSION

Obesity in pregnant women increases the risk of complications, whether maternal or neonatal. These data justify specific management of the obese patient before and during pregnancy.

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