

# Choice of Contraception Method after Abdominal Delivery in Women with Excessive Body Weight

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**Abstract.** Optimization of postoperative rehabilitation in overweight and obese patients continues to be one of the most pressing issues nowadays. The effectiveness of hormonal contraceptives may be associated with metabolic changes in patients with obesity, with increased body weight and body fat.

**Purpose.** To analyze the acceptability, side effects and complications of a reversible method of contraception - PPC prescribed after abdominal delivery in overweight women.

**Research materials.** The study was carried out in Maternity Hospital No. 2 of the city of Samarkand to assess the clinical outcome, as well as to study some clinical and laboratory parameters of pure progestin contraception in overweight women who underwent cesarean section.

**Results.** During the entire observation period, aspects of general health of overweight women after cesarean section with pure progestin contraception were clarified, as well as the appearance of adverse symptoms and adverse reactions, and the effectiveness of contraception were revealed. It was found that

the effectiveness of contraceptives was significantly high, and within 12 months no woman had a pregnancy.

**Conclusions.** Pure progestin contraception in overweight women after caesarean section is a practical, convenient, safe, effective and acceptable method of contraception.

**Keywords:** caesarean section, reversible contraception, pure progestin contraception, acceptability, overweight

**Introduction.** One of the characteristic features of modern obstetrics is the presence of an ambivalent attitude towards the caesarean section. On the one hand, there is a persistent upward trend in the rate of abdominal delivery, meanwhile on the other hand, there are also attempts to optimize the frequency of this surgery by expanding the possibility of vaginal delivery in patients with a scar on the uterus [2, 6]. Objectively, it is believed that a caesarean section is a necessary operation when it comes to the life and health of the mother and child. However, most experts argue that in every third case it is carried out unreasonably, which exposes women and their children to unnecessary additional risks. Each subsequent cesarean section increases the risk of complications during the next pregnancy, including a high possibility of a rupture of the uterus. Repeated surgeries are one of the factors which limit the number of potential births for a woman. Among the complications of pregnancy and childbirth, which are indications for caesarean section, an important role belongs to the conditions associated with obesity [1, 5]. The frequency of abdominal delivery with overweight, according to the literature, ranges from 40 to 100%, depending on the severity of obesity [4]. In this regard, an optimization of the rehabilitation during postoperative period in patients with overweight and obese patients continues to be one of the most pressing problems.

The effectiveness of hormonal contraceptives may be associated with metabolic changes in women with obesity, excessive body weight or body fat.

Annually, approximately 51% of pregnancies worldwide are unintentional. It is likely that many of these unplanned pregnancies occur among obese women, as obesity is largely related to not using contraception. In fact, women with a body mass index (BMI) over 30 kg / m<sup>2</sup> are less likely to use contraception than women with a BMI under 24 kg / m<sup>2</sup>.

Unplanned pregnancies in obese women are of particular concern due to the higher pregnancy risk associated with obesity. Risks to the mother include more frequent caesarean sections, gestational hypertension, gestational diabetes, and preeclampsia.

It is important for physicians to consider family planning needs of obese patients in order to prevent unwanted pregnancies and subsequent obstetric complications. For women of reproductive age who are obese, counseling on contraception is especially helpful because they may underestimate their fertility due to irregular menstruation caused by anovulation. In addition, obese women may wish to use contraception to optimize their pre-conception weight in order to have a healthier pregnancy.

Obese women may avoid using contraception due to their fear that hormones may further contribute to weight gain. However, most studies have shown that weight gain with many contraceptive methods is similar to age-related weight gain. The link between weight gain and progestin-only methods has also not been established.

The progestin-only birth control pill remains an effective method for obese women.

**Purpose.** To analyze the acceptability, side effects and complications of a reversible method of contraception - PPC prescribed after abdominal delivery in overweight women.

**Materials and research methods.** In the course of our work, we examined 73 women aged 18 to 38 years with a body mass index (BMI) of 25–30 kg / m<sup>2</sup>. All patients had abdominal type of delivery in maternity hospital №2 in the city of Samarkand. The observed patients were divided into 2 groups: Group I - 38 people, used in the postpartum period a pure progestin contraceptive Desogestrel 0.075 mg (Laktinet). Control group II consisted of 35 women who had undergone cesarean section and did not use hormonal methods of contraception.

The group of observed women did not include patients with neuroendocrine disorders, having a BMI of more than 30 kg / m<sup>2</sup>, suffering from severe and decompensated somatic and gynecological pathologies. The distribution of women by age, somatic pathology, parity in the observed groups did not differ.

The study was prospective and was carried out before and after 12 months from undergone abdominal delivery and included the determination of the following parameters: fasting serum glucose and after a standard glucose tolerance test, total cholesterol, HDL, LDL, triglycerides. Biochemical parameters of blood taken in an empty stomach from the decubital vein were determined by a semi-automatic analytical system using adapted photometric micromethods, which are presented by unified methods of biochemical studies with a standard set of reagents.

In all women, before and after the end of the observed period, weight was determined and BMI was calculated, according to the method proposed by G. Brey in 1987.

The credibility of difference between the data of the main and control groups was determined based on the calculation of the Students' criteria.

**Results.** Menstrual function recovered almost completely in 4-9 months of the postoperative period (Table 1). The average period of menstruation recovery in women selected for PPC was  $5.6 \pm 1.3$  months. In women in the control group, the menstrual cycle recovered on average after  $6.1 \pm 1.4$  months.

**Table1**  
**Distribution of patients depending on the recovery of the menstrual cycle after surgery**

Recovery of menstrual cycle	PPC – abs. (%) n=38	Control group - abs. (%) n=35
After 1 month	7 (18,4)	7 (20)
After 3 months	11 (28,9)	11 (31,4)
After 6 months	13 (34,2)	9 (25,7)
After 12 months and further	7 (18,4)	7 (20)

Up to 6 months after cesarean section, menstruation resumed in 47.4% of women using PPCs. In the control group, up to this time, menstruation had resumed in 51.4% of women.

Only in 4 women the first menstruation was characterized by hyperpolymenorrhea, in 2 women - hypooligomenorrhea was manifested. The second and subsequent menstrual cycles in women in the control group were without any deviations from the norm.

The duration of lactation varied. After the observation period, the number of lactating women decreased, and by the 12th month of the postpartum period, only 36.4% of women were breastfeeding.

In the group of women using Lactinet pure progestin contraception to prevent unwanted pregnancy, the overall frequency of side effects and complications did not differ significantly from the women in the control group. However, the spectrum of adverse reactions was peculiar (Table 2). As can be seen from the table, only 10 out of 38 women who received Lactinet had adverse reactions, of which only in 6 women using Lactinet had complications such as menstrual dysfunction. However, in 28 women (73.9%), the use of oral gestogen did not cause any abnormalities in well-being.

**Table 2**  
**The frequency of adverse reactions and complications in women who used Lactinet.**

Adverse reactions and complications	Number of adverse reactions and complications	
	Women with PPC n=38	Control group n=35
	Abs. Number- %	Abs. Number - %
Acyclic bleeding	6 – 15,7%	3 -8,6%
Weight gain	1 -2,6%	2- 5,7%
Depression	2 – 5,2%	2- 5,7%
Mastalgia	1 – 2,6%	2 – 5,7%
Total adverse reactions and complications	10 -26,3	9 – 25,7%
Absence of adverse reactions and complications	28 – 73,9%	26 -74,3%

At the same time, it was noted that the frequency of complications when taking Lactinet in women who underwent cesarean section slightly exceeded their number in women in the control group. The main spectrum of reactions and complications when taking Lactinet was associated with the neuroendocrine regulation of menstrual function. Adverse reactions and complications were found with almost the same frequency in both groups (26.3% and 25.7%, respectively). Only in women who underwent a cesarean section and took PPCs, acyclic uterine bleeding occurred almost twice as often as in women in the control group (15.7% and 8.6%, respectively) ( $p < 0.05$ ). Menstrual dysfunctions in women taking Lactinet were manifested mainly by spotting bloody discharge for several days after the end of normal menstruation. It should be noted that in patients after surgery with initial menstrual dysfunction there was a positive effect of taking Lactinet by the 12th month of using the PPC.

The average duration of breastfeeding in women who underwent a cesarean section and taking Lactinet PPC was  $7.0 \pm 2.3$  months. These data did not significantly differ from the average duration of lactation ( $7.0 \pm 2.2$  months) in women who did not use contraceptives. ( $p < 0.05$ ).

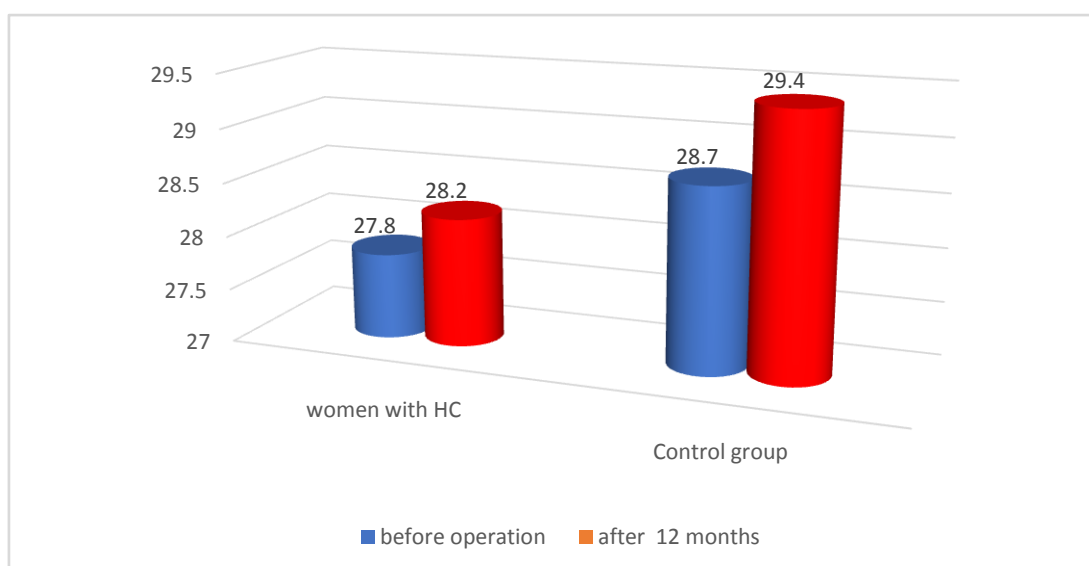
The indicators of the general blood test with the use of pure progestin contraception remained within the physiological norm ( $p < 0.05$ ).

Hemostasis indices were also within the normal range ( $p < 0.05$ ). The initial values of the state in women using PPC and in women of the control group after 12 months had the following values:

fibrinogen -  $3.02 \pm 0.3$  g / l, PTI -  $83.0 \pm 1.6\%$  and fibrinogen -  $3.08 \pm 0.3$  g / l, PTI -  $82.0 \pm 1.6\%$ , respectively ( $p < 0.05$ ).

It should be noted that in both groups observed there was no statistically significant difference in BMI values (Fig. 1). When assessing the average values, a small clinically insignificant increase in this indicator for the analyzed period should be distinguished from  $27.8 \pm 1.2$  kg / m<sup>2</sup> to  $28.2 \pm 1.1$  kg / m<sup>2</sup> in group I, from  $28.7 \pm 1.3$  kg / m<sup>2</sup> to  $29.4 \pm 1.2$  kg / m<sup>2</sup> - in group II.

**Fig 1. BMI values in the study groups.**



When assessing biochemical parameters, the average value of fasting glucose level and after glucose tolerance test in the studied patients of all groups did not exceed the standard values both before and after 12 months from surgical delivery (Table 3) ( $p < 0.05$ ).

**Table 3**

**Mean value of fasting glucose level and after glucose tolerance test in the studied patients**

Index	Patients with PPC		Patients without PPC	
	Before surgery	After 6 months	Before surgery	After 6 months
Blood glucose, mmol / l (fasting)	5,4±0,28	5,5±0,30	5,3±0,32	5,4±0,29
Blood glucose, mmol / l (after glucose tolerance test)	6,52±0,31	6,58±0,29	6,92±0,32	7,02±0,27

Similar data were obtained when determining the concentration of total blood serum cholesterol. During the observed period, its indicators increased in women of group I from  $4.31 \pm 0.11$  mmol / l to  $4.59 \pm 0.20$  mmol / l. There was no statistical significance of differences between the indicators of cholesterol and its fractions, as well as triglycerides in groups I and II, both before the caesarean section and after the use of the contraceptive.

When assessing the average values of lipid metabolism indicators, there is a slight decrease in LDL, an increase in HDL, which is more noticeable in group I in women using Lactinet ( $2.92 \pm 0.08$  mmol / l and

$2.83 \pm 0.16$  mmol / l;  $1,36 \pm 0.09$  mmol / L and  $1.45 \pm 0.10$  mmol / L before taking the contraceptive and after 12 months, respectively). However, the average values of cholesterol and triglycerides are slightly higher than in patients who did not receive hormonal drugs at all.

Of fundamental importance in choosing a contraceptive after abdominal delivery for overweight women is the form of a contraceptive. In this regard, in overweight women, we consider it justified to use drugs containing the third generation gestagen component (desogestrel), which do not have pro-androgenic properties. The data obtained by us during the study of the dynamics of indicators of carbohydrate and lipid metabolism do not have significant differences.

Based on the results obtained, it should be concluded that after abdominal delivery in overweight women, to regulate the cycle and prevent the progression of metabolic disorders, it is justified to use hormonal contraceptives containing third-generation gestagens.

**Conclusion.** The use of pure progestin contraception in the postoperative period in overweight women is more appropriate, since it does not affect the woman's weight, it regulates the menstrual cycle, causes less changes in the lipid profile, as well as it is characterized by ease of use.

Our main recommendations to the primary care physician leading overweight women who have undergone cesarean section are:

1. Educate obese obstetric patients after abdominal delivery of the obstetric risk associated with obesity and discuss contraceptive options.
2. Discuss with all patients that weight gain with contraception is usually the same as weight gain for age, with a few exceptions.
3. Explain to obese patients that there is limited literature on the effectiveness of contraceptive methods in obese women. Emphasize that even if the effectiveness may be slightly lower, it is still better to use contraception than having unwanted pregnancies, especially after a caesarean section.

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