

ABSTRACT

INTRODUCTION: Obesity is a condition characterized by an increase in body weight, through an increase in adipose tissue, caused by hypertrophy or hyperplasia of adipocytes. With the growth of obesity in the general population - the number of patients with excessive body weight in the group of women of reproductive age is increasing. Currently, it is estimated that one in five women of reproductive age is classified as obese. Conducting pregnancy and childbirth in obese patients has therefore become one of the greatest challenges of modern obstetrics, with obesity carrying a number of negative complications - maternal, perinatal, fetal and neonatal.

PURPOSE AND OBJECTIVES OF THE WORK: The purpose of this study is to evaluate the effectiveness of selected methods of labor induction of obese patients, to assess the course and duration of the various periods of labor, as well as potential perinatal complications.

MATERIALS AND METHODS: This retrospective study included a total of 187 patients, hospitalized between 2020 and 2024 at the Polish Mother's Memorial Health Center in Lodz, aged 18 years or older, who were scheduled for induction of labor with a Foley catheter and/or a vaginal insert with prostaglandins during hospitalization, and whose labor ended either by natural way or by caesarean section. The patients were divided into two groups - a control group and a study group. The study group consisted of 87 patients with $\text{BMI} \geq 30.0 \text{ kg/m}^2$. The control group consisted of 100 patients with $\text{BMI} < 30.0 \text{ kg/m}^2$.

RESULTS: The use of a second method of labor induction was necessary in 30% of patients in the control group and in 57% of patients in the study group. In patients in whom prostaglandin vaginal insertion was used as the 1st method of labor induction, the use of the 2nd method of labor induction was necessary in 12% of patients in the

control group, 41% of patients in the study group. In the control group, oxytocin was administered in 42% of patients, in the study group in 75% of patients. In the study group, the labor through the natural passages took place in 53 cases (79 cases in the control group) delivery by caesarean section in 32 cases (14 cases in the control group), delivery procedure (using vacuum or obstetric forceps) in 2 cases (7 cases in the control group). In the group of patients in whom only prostaglandin vaginal insertion was used to induce labor, the need to turn labor to caesarean section was more frequent (17 of 37 in the control group vs. 11 of 14 in the study group). The average duration of the 1st period of labor was 274 min \pm 140 min (control group 266 min vs. study group 282 min), 2nd period of labor 48 \pm 32 min (control group 41 min vs. study group 55 min). The control group had the mean birth weight of 3290 \pm 556 g, the study group 3495 \pm 471 g.

CONCLUSION: Patients with BMI \geq 30.0 kg/m² were statistically more likely to qualify for a second method of labor induction, especially for induction with a prostaglandin vaginal insert. Induced labor in obese patients was more likely to end by cesarean section, especially in the group of patients qualified for induction of labor with a prostaglandin vaginal insert only. Pregnant woman with a BMI \geq 30.0 kg/m² were observed to have a longer duration of both the 1st and 2nd periods of the labor. Contraction activity need to be significantly intensified with oxytocin infusion in the obese patients group. The birth weight o the newborns was higher in pregnancies complicated by obesity. There was also a need for longer hospitalization after delivery for obese pregnant woman compared to those with normal BMI.