ORIGINAL ARTICLE

Comparison of Duration of Third Stage of Labour with and without Placental Cord Drainage (PCD) in Women Undergoing Normal Vaginal Delivery at Term

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ABSTRACT

Aim: To estimate the duration of third stage of labour with and without placental cord drainage in women undergoing normal vaginal delivery.
Study design: Randomised controlled trial
Place and duration of study: Department of Obstetrics & Gynaecology, Shaikh Zayed Hospital, Lahore from 1st April 2020 to 30th September 2020.
Methodology: One hundred and fifty patients were presented in this study. Patients detailed demographics age, body mass index and gestational age was recorded. Patients undergoing normal vaginal delivery in the third stage of labour and age between 20-40 years were included. They were divided into two equal groups; Group I underwent cord blood drainage and group II without drainage.
Results: Mean age of the patients was 28.95±9.27 years with mean body mass index 23.12±5.34 kg/m^2. In group I mean gestational age of the patients was 38.14±2.31 weeks with mean duration of third stage of labour was 5.85±2.32minutes while in group II mean gestational age of the patients was 38.21±2.33 weeks with mean duration of third stage of labour was 7.0±2.23 minutes. Significant difference was observed between both groups ($p<0.05$).
Conclusion: Blood placental drainage is a safe and effective method of reducing blood loss and duration of third stage of labour compared to women who undergo normal vaginal delivery without cord blood drainage at term.
Keywords: Labour, Blood, Duration, Cord, Drainage

INTRODUCTION

Postpartum haemorrhage is an obstetrical catastrophe that in most cases occurs without prior risk factors in the labouring women. Eighty eight percent of these deaths occur in the first four hours of delivery due to events in the third stage of labour[1]. Worldwide there are 6 lac deaths from postpartum haemorrhage per year and their incidence in the developing world is increasing[2-5]. Active management is recommended as a preventive technique in the third stage of labour. Active management involves steps aimed at reducing the length and the blood loss during the third stage of labour[6]. The majority of the currently existing uterotonics (oxytocin, methergin and carboprost) are administered parenterally and are not readily available in our rural areas[7].

Placental drainage of the cord means the umbilical cord is clamped and cut after birth, and shortly after, the mother's side of the cord is unclamped and free blood is drained. This can offer another solution to shorten the duration of third stage of labour[8]. The few clinical randomized trials performed to test placental cord drainage have shown that the length of the third stage of labour after drainage has decreased significantly.[9,10] However, placental cord drainage in clinical practice is still not being used regularly. The goal of this study is to compare the mean duration of the third stage of labour with and without placental blood drainage in patients undergoing spontaneous vaginal delivery.

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MATERIALS AND METHODS

This randomized controlled trial was conducted at Department of Obstetrics & Gynaecology, Shaikh Zayed Hospital Lahore from 1st April 2020 to 30th September 2020 and comprised 150 patients. Patients detailed demographics age, body mass index and gestational age were recorded. Patients with full term singleton pregnancy, cephalic presentation and no co-morbidities like heart disease, hypertensive disorder, bleeding disorder, anemia and hepatitis B or C were included. Patients with multiple pregnancies, macrosomic babies, polyhydroamios and antepartum haemorrhage were excluded. Patients who underwent spontaneous vaginal delivery were included. Patients were divided into two equal groups; Group I underwent placental drainage and group II without drainage. The length of the third stage of labour before placental delivery was reported. The data was entered and analyzed through SPSS-22. Student's 't' test was applied among both groups for measurement of mean length between the groups.

RESULTS

Mean age of the patients was 23.95±9.27 years with mean BMI 23.12±5.18 kg/m^2. In group I, mean gestational age of the patients were 38.14±2.31 weeks and 38.21±2.33 weeks in group II. In group I, mean parity was 4.21±1.23 and in group II it was 3.46±1.28 (Table 1). Mean duration of third stage of labour in group I was 5.85±2.32 minutes and 7.0±2.23 minutes in group II. Statistical significant

difference was observed between the both groups [P<0.05] (Table 2).

Table 1: Baseline detailed demographics of enrolled women

Variable	Group I	Group II
Mean Age (years)	28.78±9.25	28.56±9.14
Mean BMI (kg/m^2)	23.12±5.21	22.10±5.18
Gestational age (weeks)	38.14±2.31	38.21±2.33
Mean parity	4.21+1.23	3.46+1.28

Table 2: Comparison of mean duration of third stage of labour among placental drainage and without drainage

Variable	Group I	Group II
Mean duration of third stage of labour	5.85±2.32	7.0±2.23
Age (years)		
20-35	5.24±2.19	7.18±0.32
>35	5.88±2.336	7.13±2.18
Gestational age (weeks)		
35-38	5.28±2.32	7.04±0.14
38-41	5.27±2.24	7.24±0.64

P<0.05 (Significant)

DISCUSSION

After delivery of the baby, the third stage of labour is initiated. The present study has shown substantially less duration of third stage of labour in group of women undergoing PCD as compared to the control group. Giacalone et al[11] recorded that the mean length of the third stage was less in the cord drainage group. Soltaniet al[12] exhibited a slight decrease in blood loss and third stage labour time in the cord drainage group. The above findings in our trial are close to the trial of Ghannietal[13], Wu et al[14] and Parveen at al.[15] In our study the average duration of third stage labour was 5.85±2.32 minutes as compared to drainage-free patients which was 7.0±2.23 minutes.

In the present study, the average age was 28.15±9.27 years for patients in our sample, and gestational age was 38.14 weeks. The findings were similar to foreign research. The mean gestation age was 39.8 weeks and mean age was 28 years in foreign surveys. The patient parity was between 1 and 6 and most were primigravidas (25%), comparable to other study[11]. Another study had more primigravidas, relative to multigravida in both control and study classes[12].

Although there was no substantial difference in labour time between two categories in one international study[16], in another the third work stage was substantially shorter in the drainage cord category compared to the control group (3.5±1.9 versus 7.7±3.4 minutes respectively (p<0.001)[17]. A research has been carried out in India, including two hundred pregnant women who underwent spontaneous vaginal delivery at 37 or more weeks of gestation, with single live fetuses. The baseline statistics were similar in both categories (p<0.0001)[18].

CONCLUSION

Placental cord drainage is an easy, safe and non-invasive method of shortening the length of the third stage of labour.

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