
The Effect of Application of the WHO Partogram and Active Management of Labor on the Caesarean Section Rate in Baqouba Maternity Hospital, Diala, Iraq

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Abstract:

Objective: This study was done to evaluate the effect of application of the world health organization partogram and active management of labor on the caesarean section (CS) rate in Baqouba maternity hospital, Diala, Iraq.

Patients & Methods: Retrospective study, hospital records. Conducted at Baqouba maternity hospital, from Oct. 1998 to the end of Sept. 1999.

Total number of patients delivered at the hospital six months before (4392 from Oct. 1998 to the end of March 1999, group 1) and six months after the application of the WHO partogram (4173 from April 1999 to the end of Sept. 1999, group 2).

Intervention: A partogram was applied by a resident doctor for every patient admitted for delivery and was in the first stage of labor, active management of labor policy was used for the primigravida.

Results: The total (CS) rate showed no significant difference, 22.3% in group 1 and 22% in group 2 and also in the multiparus woman 22.5% and 23.9% respectively.

Significant difference was observed in CS rate in the primigravida from 21.5% in group 1 to 17.8% in group 2.

Conclusion: This study confirmed the value of the application of the WHO partogram and active management of labor in the primigravidae.

Key words: Partogram, Labor, Caesarean, Section

Introduction

CS Rate showed changing pattern due to many factors including fetal heart monitoring^[1]. A change in breech presentation management and the use of forceps^[2], epidural analgesia^[3] and physician practice styles^[4, 5].

Several programs have demonstrated that the CS rate can be safely reduced. Dystocia or difficult labor is the leading indication in CS in addition to prior CS. Strategies to decrease operative delivery for dystocia ranging from patience and patient support in labor protocols^[7].

Partogram is one component of active management of labor, the WHO partogram was the first applied in our department with training programs for the consultants and resident doctors. In this study we look retrospectively in the files to see its effect on the CS rate which reached about 23% in 1998 in our department

Patients & Methods

Two groups of patients were taken, one before the application of the WHO partogram from Oct. 1998 to the end of March 1999, which was 4392 delivering women (group 1). The second group was also for six months after the application of the

partogram from April 1999 to the end of Sept. 1999 and was 4173 (group 2).

The partogram was filled for every patient was admitted in the first stage of labor and that was done by resident doctors who had been given lessons in the application of the partogram. All patients that had CS were assessed by the registrar in communication with the consultant on call.

Z test was used for statistical analysis.

Results

Table-1 showed the indication of CS in primigravida and multiparus women during the study period. Table-2 and table-3 showed the CS and vaginal deliveries before and after the application of the partogram of the two groups.

The total CS rate in group 1 was 22.3%, and in group 2 was 22%. In the multiparus of group 1 was 22.5% and in group 2 was 23.9%. For the primigravida in group 1 was 21.5% and in group 2 was 17.8% (significant difference). The indications of CS for failure to progress in the first stage of labor in group 1 was 25.4%, and in group 2 was only 16.1% out of the total indications of CS in primigravidae

Table-1 Indication of CS in primigravida and multiparus women from Oct. 1998 to the end of Sept. 1999 (Group 1 and 2) In Baqouba maternity hospital.

Indications	Group1 primig	Group 1 multip	Group2 primig	Group 2 multip
Postdate	30		32	
PET	22		11	
Eclampsia	6		6	
Failure to progress in 1 st stage	65	140	38	106
Failure to progress in 2 nd stage	24	40	28	38
APH	19	80	20	40
Breech	49	39	64	44
Cord prolapse		7		22
Other malpresentations		57		46
Fetal distress	33	29	30	36
Previous 1 CS		84		92
Previous 2 and more CS		197		216
Medical causes		44		36
Bad obstetric history	7	6	6	4
Rupture uterus		2		
Vaginal repair				4
Total	255	725	235	684

Table-2 Vaginal deliveries (V.D) and CS in primigravida and multiparus women in 6-month before application of the WHO partogram.

	V.D	CS	Total
primigravida	927	255 (21.5%)	1182
multiparus	2485	725(22.5%)	3210
total	3412	980(22.3%)	4392

Table-3 vaginal deliveries (V.D) and CS in primigravida and multiparus women after application of the WHO partogram.

	V.D	CS	Total
primigravida	1078	235(17.8%)	1313
multiparus	2175	684(23.9%)	2859
Total	3253	919(22.0%)	4172

Discussion

The initial reports of the use of the active management of labor suggested that this was associated with shorter labors and a reduction in abdominal delivery (8, 9, and 10) mainly by shortening the latent phase.

The first randomized trial of active management of labor with concurrent controls was reported from Northwestern Memorial hospital in 1992, More than 700 Nulliparus patients with term, singleton pregnancies were randomized at the diagnosis of labor to active management or to more traditional labor management scheme. Compared with the control group active management was associated with a 26% reduction in CS (14.1% to 10.5%), primarily because of a decrease in dystocia.

The second randomized trial of active management of labor was conducted in Dublin failed to show any significant decrease in CS. A third trial with smaller number of patients(405) (12) showed that active management of labor shorten the duration of labor, increase the likelihood of delivery within 12 hours but there was no statistically differences in CS rate between the two groups.

Regarding the delivery of patients with previous one CS, there was no difference in the CS rate before and after the application of the partogram (73/765 & 77/713). No uterine rupture occurred in this group, which is not going with a study from Pakistan (13) which was conducted in women undergoing a trial of labor following CS. The lag time 2-3 hour, after the alert line represents a time of high risk of scar rupture. An action line in this time zone would probably help in reduce the rupture rate without an unacceptable increase in the rate of CS.

This zone in the WHO partogram is four hours. We consider the application of the partogram in our department as the introduction of the active management of labor, regarding the diagnosis of labor, early amniotomy and the use of oxytocin if the patient failed to show cervical dilatation of 1 cm/hr.

These measures were mainly applied in the primigravida; more caution is considered in managing the multiparus women regarding the oxytocin use, amniotomy was mainly used to accelerate labor, in a large randomized trial this showed to shorten labor by two hours (14).

The reduction in the CS rate in primigravida may be due to a better assessment of prolonged labor, more augmentation, and may also be due to the longer period between the alert and action lines (4 hours) which is applied in the WHO partogram.

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