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Diagnosis of Cephalopelvic Disproportion or Failure to Progress of Labor in Rajavithi Hospital Compare with The Criteria of Royal Thai College of Obstetricians and Gynaecologists

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ABSTRACT

Objective: To evaluate the correlation of the clinical criteria for cephalapelvic disproportion (CPD) or failure to progress of labor (FPL) in women underwent cesarean delivery with the criteria endorsed by the Royal Thai College of Obstetricians and Gynaecologists. (RTCOG)

Material and Method: Two hundred and sixty one women underwent cesarean section due to CPD or FPL in Rajavithi Hospital from June 1st 2008 to May 31st, 2009 were retrospectively enrolled. The correlation between both criteria were analyzed using the criteria endorsed by RTCOG.

Results: The correlation rate of the clinical criteria for diagnosis of CPD or FPL in women underwent cesarean section due to CPD or FPL with the criteria endorsed by the RTCOG was 82.00%. The correlation in private cases was significantly lower than those in ward cases. (53.2% vs 85.5%, $p < 0.01$). Maternal age, Bishop score, cervical dilatation when diagnosis of CPD or FPL by clinical or RTCOG criteria were statistic significant difference between groups.

Conclusion: The correlation of clinical criteria and RTCOG criteria for diagnosis of CPD or FPL was higher (82.00%)The correlation rate in private cases was lower than those in ward cases. (53.2 % vs 85.5%, $p < 0.01$)

Keywords: cesarean section, cephalopelvic disproportion, correlation, failure to progress of labor

Introduction

Cesarean section was growing up especially in the past few decade[1]. Cephalapelvic disproportion (CPD) was the most common indication for cesarean section in Rajavithi Hospital varied from 31.39% in 1996 to 33.72% in 2000[2]. Trend of cesarean section was still rising from 30.0% in 2004 to 35.98% in 2008[3] and CPD was the most common indication in both period. The Royal Thai College of Obstetricians and Gynaecologists (RTCOG) recommended criteria for diagnosis of CPD.[4] However, some obstetricians in Rajavithi Hospital did not strictly follow these criteria. The aim of this study was to evaluate the correlation between the clinical criteria for diagnosis of CPD or failure to progress of labor in women underwent cesarean section with criteria endorsed

by the RTCOG [4]

Materials and Methods

Medical records of two hundred and sixty one pregnant women underwent cesarean delivery due to CPD or FPL in Rajavithi Hospital from June 1st 2008 to May 31st 2009 were reviewed, after approval of the Hospital Ethics Committee. Then they were re-evaluated the diagnosis of CPD or FPL using the criteria endorsed by RTCOG[4]. Cases which met the RTCOG's criteria were classified as "correlation" while those did not met the RTCOG's criteria were classified as "non – correlation". Correlation of the clinical criteria for diagnosis of CPD of FPL was analyzed.

The qualitative data were analyzed using the Chi–square test and the One-Way ANOVA. The quantitative data were analyzed using arithmetic mean, median, standard deviation and unpaired t–test. All data were collected and analysis by using SPSS for Windows Version 11.5 (SPSS, Chicago, IL).

Definitions

Cephalopelvic disproportion (CPD): Obstructed labor resulting from disparity between the dimensions of the fetal head and maternal pelvis such as to preclude vaginal delivery [4]

Lack of progression or failure of progress of labor (FPL): Ineffective labor, include lack of progressive cervical dilatation or lack of fetal descent [4]

Clinical criteria of CPD in Rajavithi Hospital: Clinical findings at the time of final diagnosis of CPD by individual obstetricians in the labor record in Rajavithi Hospital

Inclusion criteria

Women underwent cesarean section due to CPD or FPL in Rajavithi Hospital

Exclusion criteria

Incomplete medical records

Elective cesarean section due to CPD

Results

The correlation rate between the clinical criteria for diagnosis of CPD or FPL and RTCOG was 82.0%. The correlation rate in private cases was lower than those in ward cases (53.19 % vs 85.5%), respectively (Table1). Table 2 shows the obstetric characteristic of patients. Maternal age, Bishop score before induction of labor and cervical dilatation when diagnosis of CPD or FPL were significant difference. Obstetric complications are shown in Table 3. Postpartum hemorrhage was the most common complications in every group. The severe neonatal complications were found in 1.9% and in ward correlated groups only. One cases might had more than one complication. Severe birth asphyxia at 1 minute was found only in 1 case (0.4%), mild birth asphyxia at 1 minute in 2 cases (0.8%), Meconium stained amniotic fluid in 2 cases (0.8%). Other complications 3 cases (1.2%) were transient tachypnea of the newborn (TTNB) and neonatal jaundice.

Table1. Correlation rate between the clinical criteria for diagnosis of CPD or FPL and RTCOG's criteria

Correlation / Case	Correlation	Non-correlation	Total
Private	25	22	47
Ward	183	31	214
Total	208	53	261

* = Statistically significant difference

Table2. Obstetric characteristics of cases diagnosed CPD or FPL by clinical criteria and RTCOG's criteria

	Correlation (N=208)		Non –correlation(N=53)		p-value
	Ward(N=183)	Private(N=25)	Ward (N= 31)	Private (N= 22)	
Age (yr)					
Mean ± SD	27.90±5.51	31.08 ±3.22	26.10±3.75	29.73±4.88	0.02*
min-max	16 - 44	25 - 38	18 - 35	21 - 39	
BMI(kg/M^2) Mean ± SD	22.65±3.96	21.31±2.90	23.18±4.13	21.61±3.78	0.196
min-max	13.3 - 36	17.4 - 30	15.9 - 33	15.8 – 33.3	
Gravid (Median)	1	1	1	1	
min-max	1 – 6	1 – 3	1 – 3	1 – 4	
Para (Median)	0	0	0	0	
min-max	0 – 3	0 – 2	0 – 1	0 – 2	
Abortion(Median)	0	0	0	0	
min-max	0 – 5	0 – 2	0 – 1	0 – 1	
GA(wk) (Median)	39	39	39	38	
min-max	29 – 42	34 - 41	32 - 41	36 – 41	
Bishop score before induction of labor Mean±SD	7.38±2.31	6.72±2.44	5.52±2.09	5.32±2.51	<0.01*
min-max	0 – 12	2 - 11	0 – 9	1 - 10	
Cervical dilatation (When diagnosis of CPD or FPL) Mean±SD	7.02 ±2.27	5.20±1.78	2.61±1.14	2.31±1.17	<0.01*
min-max	3 – 10	3 – 10	0 – 6	0 – 5	
Estimate fetal weight(gram) Mean±SD	3196.69±370.60	3041.56±307.81	3196.77±379.02	3122.73±258.07	0.196
min-max	1400- 4500	2000-3400	2300-4200	2800-3800	
Birthweight (gram) Mean±SD	3291.56±431.42	3204.40±437.21	3211.48±389.50	3156.59±379.05	0.369
min-max	1250-4245	1890-3945	2155-4175	2455-4125	

*= Statistically significant difference

Table 3. Obstetric complications of cases diagnosed CPD or FPL by clinical criteria and RTCOG's criteria

Maternal complication	Correlation 22(8.46%)		Non –correlation 7(2.68%)		p-value
	Ward (N=183)	Private(N=25)	Ward (N=31)	Private(N=22)	
PPH	21 (9.81%)	1(2.13%)	1(0.47%)	6(12.77%)	0.224
Uterine atony	8(3.73%)	0	0	4(8.51%)	0.713
Cesarean hysterectomy	1(0.47%)	0	0	0	NA

NA = not available

Discussion

RTCOG's criteria[4] is recommended for diagnosis of CPD and FPL. However some obstetricians in Rajavithi Hospital did not strictly follow this criteria and did not have clinical practice guideline for CPD or FPL. They used individual clinical criteria for diagnosis. Results from this research found the correlation group was higher than non-correlation group (82.0% VS18.0%). When these patients were subdivided as private and ward cases. Ward cases had higher correlation rate compared with private cases 85.5 % vs 53.19 % for indication of CPD or FPL. The authors supposed that only single obstetrician's care for private case all the time until delivery, sometime produce time constraint because the doctor should have the routine job to do. So sometime CPD or FPL might be early and overdiagnosed for rapid termination of delivery especially in the case whose clinical practice guideline (CPG) had not been established. This research found that cervical dilatation when diagnosis of CPD or FPL in correlation group was in active phase of labor but in non-correlation group was in latent phase of labor. Non-correlation group in ward cases had good uterine contraction and had disorder of dilatation and descent but cervical dilatation was in latent phase of labor. But in non- correlation group in private cases did not meet proper all of criteria.

Petchmanee P et al[5] studied for effect of CPG on cesarean section by the indication of CPD in Songklanagarind Hospital and found that the correlated group was 84.6% similar to those in this study in Rajavithi Hospital (82.0%). Chittithavorn S et al[6] studied for CPG for cesarean section due to CPD in Songklanagarind Hospital. They found obstetrician diagnosis correlated CPG were 83% and ward cases were higher than private cases similar to those in this research too.

In conclusion, the correlation rate of clinical criteria and RTCOG criteria for diagnosis of CPD or FPL was high (82.0%). The correlation rate in private cases was lower than those in ward cases. (53.19% vs 85.5%). Maternal age, Bishop score, cervical dilatation when diagnosis of CPD or FPL by clinical or RTCOG criteria were statistically significant difference between groups.

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การวินิจฉัยการผิดสัดส่วนของศีรษะทารกและอุ้งเชิงกรานหรือการดำเนินการคลอดล้มเหลวในโรงพยาบาลราชวิถีเปรียบเทียบกับเกณฑ์การวินิจฉัยของราชวิทยาลัยสูตินรีแพทย์แห่งประเทศไทย

เอกชัย โควาวิสารัช, ปวีณา บุตรดีวงศ์

วัตถุประสงค์ *: เพื่อศึกษาความสอดคล้องของการวินิจฉัยการผิดสัดส่วนของศีรษะทารก และอุ้งเชิงกรานหรือการดำเนินการคลอดล้มเหลวโดยสูติแพทย์ในโรงพยาบาลราชวิถีโดยใช้เกณฑ์การวินิจฉัยของราชวิทยาลัยสูตินรีแพทย์แห่งประเทศไทยเป็นหลัก*

วัสดุและวิธีการ *: หญิงตั้งครรภ์จำนวน 261 ราย ที่ผ่าตัดคลอดด้วยข้อบ่งชี้การผิดสัดส่วนของศีรษะทารกและอุ้งเชิงกรานหรือการดำเนินการคลอดล้มเหลวในโรงพยาบาลราชวิถี ตั้งแต่วันที่ 1 เดือนมิถุนายน พ.ศ. 2551 จนถึงวันที่ 31 เดือน พฤษภาคม พ.ศ. 2552 โดยเปรียบเทียบความสอดคล้องของการวินิจฉัยการผิดสัดส่วนของศีรษะทารกและอุ้งเชิงกรานหรือการดำเนินการคลอดล้มเหลวโดยสูติแพทย์ในโรงพยาบาลราชวิถีกับกับเกณฑ์การวินิจฉัยของราชวิทยาลัยสูตินรีแพทย์แห่งประเทศไทย*

ผลการวิจัย *: อัตราการปฏิบัติที่สอดคล้องของแพทย์เทียบกับเกณฑ์ราชวิทยาลัยคิดเป็นร้อยละ 82 โดยพบว่ากลุ่มที่ฝากพิเศษปฏิบัติสอดคล้องตามเกณฑ์น้อยกว่ากลุ่มที่ไม่ได้ฝากพิเศษคิดเป็นร้อยละ 53.2 และ 85.5 ตามลำดับ และอัตราการผ่าตัดคลอดด้วยข้อบ่งชี้การผิดสัดส่วนของศีรษะทารกในโรงพยาบาลราชวิถี, กลุ่มอายุ, การตรวจประเมินปากมดลูกมี พบว่าความแตกต่างทางสถิติอย่างมีนัยสำคัญเมื่อเปรียบเทียบความแตกต่างระหว่างสองกลุ่ม*

สรุป *: อัตราการผ่าตัดคลอดด้วยข้อบ่งชี้การผิดสัดส่วนของศีรษะทารกและอุ้งเชิงกรานหรือการดำเนินการคลอดล้มเหลวในโรงพยาบาลราชวิถีวินิจฉัยได้สอดคล้องตามเกณฑ์ราชวิทยาลัย สูงถึงร้อยละ 82 โดยพบว่ากลุ่มที่ฝากพิเศษปฏิบัติสอดคล้องตามเกณฑ์น้อยกว่ากลุ่มที่ไม่ได้ฝากพิเศษคิดเป็นร้อยละ 53.2 และ 85.5 ตามลำดับ*