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High Emergency Caesarean Section Rate - A comparison of indications in years 2005 and 2010

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ABSTRACT

Objective: To determine emergency C- section rate and compare the indications in year 2005 & 2010.
Place and Duration: Study was conducted in obstetrics and gynecology Unit II Sir Ganga Ram Hospital Lahore. It was retrospective descriptive study. All emergency caesarean section done in Jan-Jun 2005 and From Jan-Jun 2010 were included.
Patients and Methods: Study was conducted in year 2010. This was comparative study. Data was collected from Hospital record regarding rate & indications of emergency caesarean sections in first 6 month in year 2005 (Group I) compared with first six month data from 2010 (Group II).
Results: The rise in emergency caesarean section rate was seen up to 17.3%. There was drastic rise in rate of repeat caesarean sections 43.5% Vs 14.7% in year 2010 & 205. While rate of caesarean sections performed for fetal distress and failure to progress had decreased by 9.5% and 4.9% respectively. Decrease in rate was also observed in caesarean sections performed for hypertensive disorders of pregnancy and obstructed labour by 4.8% and 2.9%.
Conclusion: Repeat caesarean sections especially previous one are caesarean section with associated problem has caused exponential rise in emergency caesarean rate.

Key words: Emergency caesarean rate, Indications of emergency caesarean section,

INTRODUCTION

Obstetric interventions especially caesarean sections (CS) have increased in recent years in all developing & developed countries. The steady rise in CS rate is an emerging issue and matter of international attention. Nevertheless CS rate tends to vary widely with clinical & socio-demographic factors of patients as well as the attitude of health care provider. Several factors such as decreasing maternal morbidity and mortality after CS, patient autonomy, possible damage to pelvic floor due to vaginal delivery and forensic aspects might influence an obstetrician to perform CS[1].

CS may be planned in advance (Elective CS) or may be performed at short notice particularly if there are complications or difficulty in labor (emergency section). Emergency caesarean section rate is indirect reflection of level of antenatal care. Most of emergency procedure are performed for dystocia, fetal distress, obstructed labor or hypertensive disorders of pregnancy. The incidence of CS seems to increase in primigravida as compared to multigravidas. Consequently increasing number of women in second pregnancies face the issue of mode of delivery as requiring vigilant fetomaternal monitoring in case of vaginal birth after CS (VBAC) leading to increased chance of CS.

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Poverty, illiteracy, lack of health facilities and transportation, trial of labor at home by untrained personals adds to problem of high emergency caesarean rate in our set up. Emergency CS have resulted in increased rate of infection, haemorohage, organ damage and drug reactions. The purpose of this study was to compare the rate and indications of emergency CS in 2005 Vs 2010.

PATIENTS AND METHODS

This was retrospective, descriptive study conducted in the Department of Obstetrics & Gynaecology, Sir Ganga Ram Hospital, Lahore. Data was obtained through hospital record for first 6 month (Jan-Jun) of 2005 (Group I) and 2010 (Group II). Rate and indications of emergency caesarean were compared. Frequency and percentages were calculated and analyzed.

RESULTS

Comparing with year 2005, the rise in caesarean section rate was seen up to 17.3%. There was drastic increase in the rate up to 28.8% due to repeat caesarean section. Main indications in 2005 was fetal distress (33.3%), followed by failure to progress (20.3%) and repeat caesarean section (14.7%). A significant decline noted in fetal distress (9.5%), failure to progress (4.9%), sever P.I.H and eclampsia (4.8%) obstructed labour (2.9%) and CPD (2.9%). Indications like malpresentation, Twin 1 UGR had almost similar results .

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Table 1. The Rate of Emergency CS

Year	No. of Live birth	No. of Emergency C-Section	Emergency CSR
2005 (Jan-June)	1471	300	20.4%
2010 (Jan-June)	2855	1065	37.3%

Comparison of indications 2005 vs 2010

Indication	Group I (2005) n = 300	Group II (2010) n. 1065
Fetal Distress	100 (33.3%)	248 (23.8%)
Failure to progress	61 (20.3%)	165 (15.4%)
Repeat Caesarean section	44 (14.7%)	464 (43.5%)
Previous 1 LSCS + additional factors	29 (9.6%)	302 (28.3%)
Previous 2 LSCS	14 (5.7%)	120 (11%)
Previous 3 LSCS	1 (0.3%)	36 (3.3%)
Previous 4 LSCS		6 (1.2%)
Malpresentations	12 (4%)	56 (5%)
APH	18 (6%)	30 (2.8%)
Major degree placenta praevia	12 (4%)	18 (1.69%)
Placental abruption	6 (2%)	12 (1.12%)
Severe P.I.H / Eclampsia	19 (6.33%)	27 (2.5%)
Obstructed labour	20 (6.6%)	18 (1.69%)
CPD	16 (5.3%)	26 (2.4%)
Twin	7 (2.3%)	20 (1.8%)
IUGR	3 1%	11 (1%)

DISCUSSION

CS rate has risen through a combination of medical, cultural and organizational factors. There is concern about dramatic increase in ongoing over use of CS. The average CS rate for Latin America is ranging from (16.8-40)%[2] in Beijing, rapid increase in CS has been seen in the past two decades, with highest rate reaching 60% in some hospital[1]. In Brazil CS rate up to 50% to 72% has been reported[3].

Our study showed emergency caesarean section rate 20% (in 2005) and 37.3% (in 2010). These are consistent with local studies conducted in Hyderabad (4), Lahore (5) and Abbotabad[6]. Studies from Iraq[7] and Durban[8] also showed similar observations. There is drastic rise in number of repeat caesarean sections (2005 vs 2010). Major contribution is by repeat CS 14.7% (2005) Vs 43.5% (2010). Prior one Cs accounted 9.6% in year 2005 while 28.3% in 2010. These finding are not dismilar from studies by Nizam K in Hyderabad[4], Noureen S[9] from Karachi, Jabir M in Iraq and Naidoo N in Durban[8].

The reluctance to permit trial of labor following one CS is probably due to two main factors. Firstly there is fear of uterine rupture in labor and secondly many obstetrician and women consider that CS is convenient procedure, essentially free of hazards. According to survey conducted in United States 46.2% of gynaecologist would choose CS for themselves or their partner after low risk pregnancy[10]. Shorter inter pregnancy interval and trial of labor outside hospital also alters the decision of VBAC after one prior CS. Thus a vicious circle of repeat CS starts resulting in high order repeat CS. 5.7% (2005) Vs 11% (2010) CS were conducted for previous 2 CS, while number of previous 3 and previous 4 caesarean section was 0.3% and 0% in year 2005 while 3.3% and 1.2% in 2010 respectively.

This reflect 5.3%, 3% and 1.2% rise in previous 2, previous 3 and previous 4 CS respectively. Similar results were observed in local studies conducted by Noureen S with 7% rise in more than one prior CS when data of 1997 was compared with 2004. Shamshad from Abbotabad reported 1/3 Cs due to more than one prior CS. Sir Ganga Ram Hospital is a tertiary care hospital and formation of new emergency unit is providing 24 hours free treatment. It is now receiving more referred cases than five years earlier most of patients with repeat caesarean section now prefer to have walk in surgery when labor starts. If we compare uterine sear with un scared uterus, with one prior CS risk of placenta praevia is four times, seven times with prior two or three operations and 45 times with four or more CS[11]. The odds of placenta accrete jump from 1 in 1000 with one prior CS to 1 in 100 with more than one prior CS[12]. Nearly all woman with this complication will require hysterectomy, nearly half will have a massive haemorhage[13]

Considering the above mentioned complications with prior caesarean section attempts should be made to decrease the number of repeat CS through interdepartmental meeting, standardized management guideline for trial of labor in patients with prior one CS. Decision of first CS is of prime

importance and individualized care should be provided to each patient to avoid unnecessary CS.

Cesarean Sections performed for fetal distress were 33.3% in 2005 Vs 23.8 in 2010. Apparently showing 9.5% decline for this indication but in reality this is due to overall high percentage of repeat CS in 2010. Interesting observation is that among fetal distress now we encounter more meconium staining probably due to liberal use of prostaglandin E_1 (PGE_1). The preference of PGE, use could be due o its low price and oral route of administration.

Next indication was failure to progress which contributed 20.3% (2005) and 15.4% (2010). This shows a decline of 4.9% caesarean section for obstructed labor also declined by 2.9% (6.6% in 2005 Vs 1.69% in 2010).

These results are dissimilar from study conducted by Nizam K in Hyderabad where 24.39% CS were conducted for obstructed labor. Our results are also in contrast to study in Abbottabad where 19.3% and 12% Cs were conducted for obstructed labor and failure to progress respectively. This may reflect better labor management, early detection and timely intervention for protracted labor in our setup.
Another decline is observed CS done for P.I.H. and eclampsia (6.33% in 2005 and 2.5% in 2010). Similar result were observed by Naidoo N in Durban in 2004 but in contrast to Nizma K study where still 10.3% CS were done for eclampsia.

Use of MgSO4 treatment and prophylaxis and hydralazine (antihypertensive) may be responsible for such decline in our study. Indications like Malpresentation (4% in 2005 Vs 5% in 2010) Twin (2.3% in 2005 Vs 1.8% 2010) IUGR (1% in 2005 and 1% in 2010) does not show significant change.

Therewas general consensus amongst clinician that high CS ratewas undesirable. One way to respond this would be that we should target for reducing caesarean rate. For this women must be given unbiased information on benefit and risk of vaginal birth versus CS. Hospital should evaluate variation in caesarean rate among practitioner at their institutions. Institution should use comparative data on CS rate to evaluate their own CS rate.

CONCLUSION

The rise in emergency caesarean was seen up to 17.3% when previous data of 2005 was compared with recent one (2010). Repeat CS showed major increase by 28.8%. Actions should be taken to reduce Caesarean Section rate. It would need to involve public health authorities, medical association, general practitioner, medical school, doctors, midwives, nurses, the media and general population. Use of standardized management guideline and practice of guidance based obstetrics go a long way in balancing the rate of CS.

A suggested approach can be of careful differentiation during pregnancy of high risk and low risk groups of pregnant women with different management of labor. The low risk may be attended by primary care attendants during labor with out electronic fetal monitoring but strict criteria for referral. A close cooperation between midwives, general practitioners and obstetrician with mutual respect for each other's special abilities is a prerequisite for such a system to work

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