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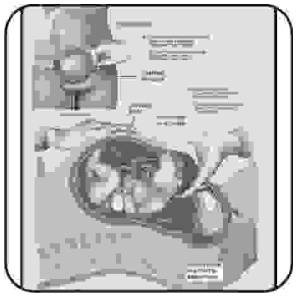

EMERGENCY CAESAREAN SECTION;

COMPARATIVE ANALYSIS OF PROBLEMS ENCOUNTERED BETWEEN PATIENTS OF ELECTIVE CAESAREAN SECTION AND PATIENT FOR WHOM ELECTIVE CAESAREAN SECTION WAS PLANNED BUT ENDED UP IN EMERGENCY

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ABSTRACT... javaid.rehman@yahoo.com **Objective:** Comparative analysis of problems encountered between patients of elective caesarean section and patients for whom elective caesarean section was planned but ended up in emergency caesarean section. **Design:** Descriptive prospective analysis. **Setting:** Gynae Unit-II, Services Hospital, Lahore. **Duration:** One year, 1st January 2006 to 31st December 2006. **Patients & Methods:** A prospective study of 100 patients who presented for antenatal care (ANC) and for whom elective caesarean section (CS) was planned was done. Patients evaluation was done on a designed performa that included demographic, social and obstetrical histories. Problems encountered in the preparatory stage, logistic problems, administrative problems, problems encountered during surgery, maternal, fetal mortality and morbidity were noted. **Results:** The patients were divided into two categories. Categories I: included patients who had elective CS and category II: included patients who ended up in emergency CS. Numerous problems were encountered for category II patients. In the preparatory phase there was difficulty in arranging medicines for 32 patients. (59.2%), arranging blood for 28 patients (51.8%), obtaining consent for 1 patient (1.85%). Logistic problems included non-availability of operation theatre for 15 patients (27.75%), non-availability of anaesthetist for 9 patients (16.65%), and non-availability of paediatrician for 38 babies (17.3%). None of the emergency CS were done with in the recommended 30 minutes interval. Despite this, there was no significant coloration between the decision delivery interval (DDI) and perinatal outcome. In our study like threatening cases were operative within 60 minutes. Intra operative problems in the category II patients included adhesions in 40 patients (74%) vs 10 patients (21.7%) of category I, partial dehiscence in 16 patients (29.6%) of category II vs 4 patients (8.68%) of category I. Excessive hemorrhage in 8 patients (14.8%) of category II vs 2 patients (4.34%) of category I. Among the post operative complications anemia was present in 20 patients (43.4%) of category I vs 45 patients (83.25%) of category II patients. Blood transfusion was required for 16 patients (29.6%) of category II vs 4 patients (8.68%) of category I and all patients were given iron supplement. Major wound infection were seen in 9 patients (16.65%) of category II vs 2 patients (4.34%) of category I. Resuturing was done after appropriate antibiotic cover and daily

antiseptic dressing. Minor wound infections were seen in 22 patients (40.7%) of category II vs 12 patients (26.04%) of category I. Urinary Tract Infections (UTI) was seen in 6 patients (11.1%) of category II vs 1 patient (2.17%) of category I. Respiratory Tract Infection (RTI) was seen in 5 patients (9.25%) of category II vs 2 patients (4.34%) of category I. All these were treated by appropriate antibiotic cover. Regarding the neonatal outcome 16 babies (29.6%) of category II were kept under observation in neonatal nursery (NNU) as compared to 6 (13.02%) babies of category I. Admission for 2-10 days in NNU were 8 babies (14.96%) of category II vs 2 babies (4.34%) of category I. 2 babies (3.74%) of category II expired later while none of category I. **Conclusion:** Patients for whom elective CS was planned but who ended up in emergency CS, the DDI was prolonged and there was increase risk of maternal morbidity, fetal morbidity and mortality as compared to those patients who had elective CS.

Key words: Elective caesarean section, Emergency caesarean section, Maternal outcome, Fetal outcome.

INTRODUCTION

Delivery of the baby by an abdominal and uterine incision is known as CS. It is increasingly being used for safe delivery, for fetal and maternal reasons either elective or as an emergency[1]. It is done after the age of viability (24 weeks). A similar operation performed before the age of viability is called hysterotomy. Over the years anaesthesia has become safer, complications are extremely rare due to availability of experienced anaesthetist and most CS are being performed under regional anaesthesia. The increased safety of blood transfusion, improved aseptic, antiseptic techniques and the use of antibiotics has made it a safe procedure[1].The incidence of CS varies between 10 and 25% in most developed countries[1].

The incidence in tertiary care hospital of Pakistan is higher i.e. 30-35% because a large number of unbooked cases land in emergency after having been mismanaged outside[2]. The risk of scar rupture in the subsequent pregnancy is 2.2% after one classical and 0.5% after a lower segment CS. In western countries the reported maternal and fetal mortality after a classical scar rupture is 5% and 73%. After a lower segment CS 0.05% and 12.5%. These figures are higher in Pakistan where a number of patients are tempted to go through vaginal birth even after multiple CS[2].

Every pregnant women is a potential candidate for CS and this fact must be conveyed to her during ANC. The patient for whom elective CS has been planned has sufficient time to think over and plan[2]. She and her family are better prepared mentally and can managed family, financial issues, arrange for domestic help, and can do better resource management well ahead. The purpose of the study was to complete the problems encountered between patients of elective CS and patients foe whom elective CS was planned but ended up in emergency CS.

MATERIAL & METHODS

This descriptive prospective study was conducted from 1st January 2006, to 31st December 2006 at Gynae Unit-II, Services Hospital, Lahore. 100 patients who presented in the ANC and for whom elective CS was planned were enrolled in the study. The patient's evaluation was done on designed performed that included demographic, social, and obstetrical histories. The patients were divided into two categories. Categories I: included patients who had elective CS and Category II: included patients who ended up in emergency CS. The numerous problems which were encountered in the management of category II were divided into (1) problems in the preparatory stage like nil per oral (NPO) was not proper; anemia was present, uncontrolled Pregnancy Induced Hypertension (PIH), uncontrolled diabetes mellitus, patients with unknown cardiac status.

Patients social and financial problems, so that there was delay / inability to arrange for medicines, blood and

consent. (2) Logistic problems included administrative problems like non availability of operation theatre anesthetist, pediatrician, senior obstetrician, proper sterilization of instrument. (3) Problems encountered during surgery. Preterm babies or babies with poor APGAR score were shifted to NNU and were managed by paediatric department. All these contributed to increased maternal and fetal morbidity and mortality.

RESULTS

Our results showed that out of 100 booked patients, there were 14 nullipara while 86 were mulitgravida. 46 patients (45%) had elective CS while 54 patients (54%) ended in emergency CS. Most common indication of emergency CS was onset of labour in 20 patients (37.4%) followed by scar tenderness in 15 patients (27.75%), uncontrolled PIH in 9 patients (16.65%), fetal distress in 7 patients (12.95%), antepartum hemorrhage (APH) in 4 patients.

The duration of gestation at which maximum number of emergency CS was done i.e.> 37 weeks for 37 patients (68.45%), followed by 34-36 weeks for 15 patients (27.75%) between 34-36 weeks, between 31-33 weeks for 1 patient and < 30 weeks for 1 patient (1.85%). The problem encountered in the preparatory phase included difficulty in arranging medicine for 32 patients (59.2%), arranging blood for 28 (51.8%). Difficulty in obtaining consent for 1 patient (1.85%).

Non availability of operation theatre was also a major factor for delay and occurred for 15 patients (27.75%) followed by non availability of anesthetist for 9 patients (16.65%) while pediatrician was not available to attend the babies for 38 patients (70.3%). Patients who had elective CS no such problem was encountered. (Table-I).

In categories II, decision delivery interval DDI for most patients i.e 24 patients (44.4%) was 4 hours, while for 10 patients (18.5%) 2 hours, for 6 patients (11.1%) 6 hours, for 5 patients (9.25%) 5 hours for 6 patients (11.1%) 2 hours while for 3 patients (5.55%) 1 hours. Hence DDI varied from 1-6 hours. Life threatening cases were operated within 60 minutes.

Table-I.

Per Op. Problem	= n	% age
Difficulty in arranging medicines	32	59.2
Difficulty in arranging blood	28	51.8
Difficulty in arranging consent	01	1.85
Non availability of operation theatre	15	27.75
Non availability of anesthetist	09	16.65
Non availability of pediatrician	38	70.3

Operative complications encountered were adhesions of varying degrees in 40 patients (74%) of category II, and 10 patients (21.7%) of category I. Partial dehiscence was seen in 16 patients (29.6%) of category II, and 4 patients (8.68%) of category I. Excessive hemorrhage > 500 ml was encountered in 8 patients (14.8%) of category II, and 2 patients (4.34%) in category I (Table-II).

Table-II.

Operative Complications	Category I		Category II	
	= n	% age	= n	% age
Adhesion	10	21.7	40	74
Partial dehiscence	4	8.68	16	29.6
Hemorrhage	2	4.34	8	14.8

Among the post operative complications, most common was anemia and was seen 45 patients (83.25%) of category II, and 20 patients (43.4%) of category I. Blood transfusion was required for 16 patients (29.6%) of category II vs 4 patients (8.68%) of category I and all patients were given iron supplement.

Major wound infections were seen in 9 patients (16.65%) of category II, and 2 patients (4.34%) of category I. Resuturing was done after appropriate antibiotic cover and daily antiseptic dressing. Minor wound infections

were seen in 22 patients (40.7%) of category II and 12 patients (26.04%) in category I. UTI was seen in 6 patients (11.1%) of category II vs I patient (2.17%) of category I. RTI was seen in 5 patients (9.25%) of category II vs 2 patients (4.34%) of category I. All these were treated by appropriate antibiotic cover (Table-III).

Table-III.

Post Operative Complication	Category I		Category II	
	= n	% age	= n	% age
Anemia	20	43.4	45	83.25
Major wound infections	02	4.34	09	16.65
Minor wound infections	12	26.04	22	40.7
UTI	01	2.17	06	11.1
RTI	02	4.34	05	9.25

Regarding the neonatal outcome 16 babies (29.6%) of category II were kept in the NNU for observation while 6 babies (13.2%) of category I. Admission for 2-10 days in NNU were 8 babies (14.8%) of category II, and 2 babies (4.34%) of category I. 2 babies (3.7%) of category II expired while none of category I. Hence there is increased risk of maternal morbidity, fetal morbidity and mortality in the emergency CS group.

DISCUSSION

All the patients presented for ANC and elective CS was planned for various indications, yet some patients ended up in having an emergency CS. At admission it was found that for some of these patients there was failure of compliance in getting the advised investigations done, in taking supplements and in taking medication for PIH, and diabetes mellitus. Patients also did not report for regular follow up. Some of these patients had only one or two visits and than came in emergency requiring emergency CS. Their situation was almost similar to those patients who presented for the first time in emergency.

So we need to educate our patient about the importance of proper ANC and compliance in taking medicine in appropriate doses and for recommended duration. International recommend DDI is 30 minutes. None of emergency CS in our study was done in the recommended 30 minutes interval. Despite this, there was no significant correlation between the DDI and perinatal outcome. The major cause of delay in DDI were anesthetic delay and difficulty in sourcing essential materials. Same finding were seen in one study[3]. In another study operations were divided into emergency i.e. “most pressing” and “urgent” where maternal and fetal compromise was not immediately life threatening, median interval for emergency cases was 48 minutes and for urgent 59 minutes. Most DDI exceeds 30 minutes[4]. Our study also showed that life threatening cases were operated relatively earlier i.e. within 60 minutes.

Patients and attendants of patients with history of pervious CS and admitted patients were aware of the need for urgency and were better organized, they quickly arranged blood and medicine, hence DDI was lesser for them. Regarding availability of operation theatre there are three units in our hospital. One unit is on emergency call while one unit has post emergency day, with a back log of undelivered patients some of whom need CS. So many a times operation theatre is unavailable. Only one anaesthetist is on duty, in the evening and night duty and he can manage only one patient at a time, so non availability of anaesthetist is a constant problem.

Pediatrician is also not available around the clock. Babies are resuscitated by the obstetrics registrar and helped by anaesthetist if baby is serious and later shifted to NNU. So there is increased perinatal morbidity. There was no significant difference in need for resuscitation for infants, in cases of elective CS done under regional anaesthesia, while general anaesthesia, fetal distress and non cephalic presentation increased the need for resuscitation[5]. All of our CS was done under regional anaesthesia except for cardiac patients. A modest increase in time lapse before start of surgery was

observed in regional anaesthesia although no significant increase in the number of neonates with low APGAR score[6]. Our study shows similar finding, so despite the non availability of pediatrician the overall fetal outcome was not effected.

More operative and post operative problems were encountered in category II patients. This is because lack of health education, poor health and poor nutrition causes poor healing and a weak previous scar. We planned elective CS at 38 weeks of gestation. Most of our patients needed emergency CS at > 37 weeks of gestational so may be elective caesarean should be done at earlier gestation in selected cases. Time of the day when emergency CS was performed also influenced the outcome. During the day experienced obstetrician, anesthetist and neonatolgist were available. There was optimal sterilization of instrument etc, other operation theatre facilities were fully available and full strength of staff was available i.e. doctors and paramedical staff. Combination of all these resources improved maternal and fetal outcome even in emergency cases.

REFERENCE

1. Dewhurst's Textbook of Obstetrics & Gynaecology for postgraduates Seventh edition. Edited by D. Keith Edmonds. **Malpresentation, Malposition, cephalopelvic disproportion and obstetric procedures.** Pg 223-224. Blackwell publishing. London 2007.

2. Fundamentals of obstetrics, First edition, edited by Arshad Chohan. Obstetrical operations pg 309-323. MAR publishers Lahore 2005.

3. Onah HE, Ibeziako N, Umezulike AC, Effetie ER, Ogbuokiri CM. J obstet Gynaecol. 2005 May; 25(4): 342-6. **Decision - delivery interval and perinatal outcome in emergency caesarean sections.**

4. Ie Riche H, Hall D. J Trop Pediatr. 2005 Apr; 51 (2): 78-81. **Non-elective caesarean section: how long do we take to deliver?**

5. Gorden A, Mckechnie EJ, Jeffery H. Am J obstet Gynecol. 2005 Sep; 193(3Pt1): 599-605. **Pediatric presence at caesarean section: justified or not?**

6. Bjornestad E, Iversen OE, Reader J. Eur J Anaesthesiol. 2004 Oct; 21(10): 776-80. **The impact of increasing the use of regional anaesthesia for emergency caesarean section.**

STRUGGLE IS OUR DUTY

Shuja Tahir