

Analysis of Maternal Complications in Caesarean Section

F NAZ A BAGUM

Department of Obstetrics and Gynaecology, Allama Iqbal Medical College / Jinnah Hospital Lahore.
Correspondence to Farhat Naz.

This interventional quasi experimental study was carried out at Gynaecology Department, Jinnah Hospital Lahore to determine frequency, indications of emergency and elective caesarean sections and to establish a comparison of maternal complications. During one year period July 2003-june 2004 total birth were 3932.955 women underwent caesarean section which makes the rate of 24.3% in our unit. Out of 955, 713(74.6%) were emergency and 242(25.4%) were elective caesarean sections. Common indications in emergency group were fetal distress (26.21%), repeat section (18.9%), failed progress of labour (14.3%) and malpresentation (13%). In elective group repeat section (48.7%), malpresentation (17.3%), cephalopelvic disproportion (10.8%) antepartum haemorrhage (8.3%) were common indications. 490(93.2%) patients in emergency group required blood transfusions mainly due to anemia and 36(6.8%) patients in elective group were transfused mainly due to placenta previa. 54 women faced intraoperative complications. 54(93.1%) belong to emergency group and 4(6.89%) belong to elective group. caesarean hysterectomy were done in 6 patients in emergency group. post operative complications were encountered in 162 patients. 150(92.6%) were from emergency and 12(7.4%) were from elective group. Infective morbidity constituted the major post operative problem.

Key words: Caesarean section, maternal complications, traditional birth attendant(TBA)

Caesarean section, a major obstetric procedure is performed when vaginal delivery is either not possible or would impose undue risks on mother and baby. Delivery by caesarean is associated with a 5 fold increase in maternal mortality and morbidity as compared to vaginal delivery'. Modern advances in the field of anaesthesia, availability of blood transfusion, sterilization and good antibiotics have made caesarean delivery a relatively simple procedure but still complication profile is higher as compare to vaginal delivery. Escalating caesarean section rate has become a well established fact all over the world. Today caesarean sections are performed in 15-25% of all deliveries² in most developed countries with an associated mortality of less than 1:10,000.

Elective caesarean section is a planned operation performed before the onset of labour and emergence of any complication. Mother is well prepared pre-operatively and all criteria for surgery is tried to meet with availability of senior staff and ancillary services. Both materno-fetal complications are undoubtedly less.

Majority of our obstetric patients are unbooked. They belong to poor socio-economic class with all risks of nutritional deficiencies, unrecognized obstetric and non obstetric problems in pregnancy. Moreover they come in labour in hospital when TBA has failed to deliver them at home. Emergency caesarean section belongs to entirely different entity according to the measures taken, facilities and skilled staff available and preparation done. Emergency caesarean section has higher expected incidence of complication as compare to elective procedure³. This study was carried out to analyse and compare the maternal complications profile of caesarean sections as emergency and elective cases.

Patients and methods:

This study was carried out in Obstetrics and Gynaecology Department of Jinnah Hospital, Lahore from July 2003 to June 2004. It included all patients who underwent caesarean section during this period. Study consisted of two groups. First group consisted of patients who were admitted in labour room through emergency and delivered by emergency caesarean section. Second group included patients admitted in ward from out patient department for elective caesarean section. Detailed history was taken and thorough physical examination was done. All relevant investigations like blood group, RH factor, blood complete picture, urine analysis, HBsAg, blood glucose and ultrasonography was done in all cases for elective caesarean section. All possible urgent investigations for emergency caesarean section were done in labour room. Blood was arranged and prophylactic antibiotics were given to all patients. All the patients were observed throughout their operation performed by consultant, senior registrar or trainee registrar. Intraoperative and post operative complications were noted on a Performa and comparison of complications was carried out between two groups.

Results:

Total numbers of births during study period were 3932. out of which 955 underwent caesarean section, which makes 24.3% caesarean section rate in our unit as shown in fig 1.

Out of 955 caesarean section done, 713(74.7%) were emergency and 242(25.3%) were elective as shown in Table 1. Age of patients ranged from 18-41 years. Parity wise distribution was shown in table 2. The common indications in emergency caesarean section group were

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fetal distress in 187(26.21%), repeat caesarean in 135(18.9%), failed progress of labour in 102(14.3%), malpresentations in 93(13%), obstructed labour in 78(10.9%) and hypertensives disorders in 37(5.2%) patients as shown in Table 3. Common indications in elective caesarean group were repeat caesarean in 118(48.7%), malpresentations in 42(17.3%), cephalo-pelvic disproportion in 26(10.8%), APH in 20(8.3%) & PIH in 13(5.3%) patients as shown in Table 4.

Pfannenstiel incision was frequently used incision as 93.4% of total patients were operated through it. In emergency group 93% and in elective group 91% of patients were operated with pfannenstiel incision. Midline incision was used only in those patients who had previous midline scar. Total 58 patients out of 955 got surgical and anaesthesia complications during operation. 54(93.1%) belonged to emergency group and 4(6.9%) patients belonged to elective group. Spectrum of intra-operative complications is shown in Table 5.

526 patients received blood transfusion either intra-operatively or post operatively. 490(93.2%) patients were emergency cases while 36(6.8%) in elective group. blood transfusions were mainly arranged due to haemorrhagic conditions and pre operative diagnosis of anaemia.

Total 162 patients suffered from post operative complications. out of 162 patients 150(92.6%) were from emergency group and 12(7.4%) from elective group. spectrum of post operative maternal complications is shown in table 6. Hospital stay was prolonged in emergency caesarean section group than that in elective group. 85.6% of patients in emergency group stayed in ward for a duration of 7-10 days. In elective group 74% of patients were discharged between 3-7 days.

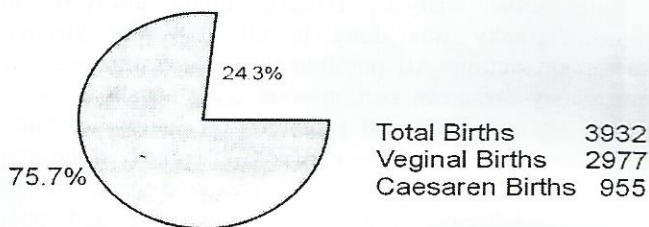


Fig 1

Table 1 Emergency versus elective caesarean section (n= 955).

Type	n=	%age
Emergency	713	74.7
Elective	242	25.3
Total	955	100

Table 2: Parity wise distribution (n = 955).

Parity	n=	%age
Nulliparous	228	23.8
P 1-2	378	39.6
P 3-4	160	16.7
P 5-6	106	11.1
P 7-10	61	6.4
Above 10	22	2.4

Table 3: Indications of emergency caesarean section (n= 713).

Indications	n=	%age
Fetal Distress	187	26.2
Repeat Caesarean Section	135	18.9
Failed Progress of Labour	102	14.3
Malpresentation	93	13
Obstructed Labour	78	10.9
Hypertensive Disorder	37	5.2
Miscellaneous	81	11.4

Table 4: Indications of elective caesarean section (n= 242).

Indications	n=	%age
Repeat Caesarean Section	118	48.7
Malpresentation	42	17.3
CPD	26	10.8
APH	20	8.3
Hypertensive Disorder	13	5.3
Miscellaneous	23	5.2

Table 5: Intra operative complications.

Complications	Emergency Group	Elective Group	Total
Haemorrhage	23	3	26
Extension of Uterine Incision/Tear	19	0	19
Caesarean	06	0	6
Hysterectomy			
Bladder Injury	03	1	4
Bowel Injury	01	0	1
Difficult Endotracheal Intubation	01	0	1
Cardiac Arrest	01	0	1
Total	54	4	58
%age	93.11	6.89	100%

Table 6: Post operative complications.

Complications	Emergency Group	Elective Group	Total
PPH	33	2	35
Paralytic Ileus	11	0	11
Post Operative Pyrexia	42	7	49
UTI	30	2	32
Wound Infection	23	1	24
Endometritis	3	0	3
DIC	01	0	1
DVT	4	0	4
VVF	1	0	1

Discussion:

The caesarean section rate has increased through out the world from 4.5% in 1965 to almost 23-25% in 1988⁴. In different studies variation in rate in different parts of world is noted obviously. Generally rate is highest in capital cities and for insured women. This suggests expectations of obstetrician and patients in western world^{5, 6}.

Caesarean birth rate in our study was 24.3% which is comparable with local⁷ and international studies. Our rate is not true representative of local population caesarean birth rate. Jinnah hospital is a tertiary referral centre which drains majority of complicated cases of the peripheral areas. pregnant women in peripheral areas like to deliver at

home by TBAs lady health visitors and many caesarean sections are being done at private clinics for which no record is available.

Over 85% caesarean sections are performed in western world and USA due to prior caesarean section⁸, labour dystocia, fetal distress and breech presentation. In our study, in elective caesarean section group repeat caesarean section, malpresentation CPD and APH constituted indication 48.7%, 17.3%, 10.8% and 8.3% of patients respectively. In emergency caesarean section group fetal distress, repeat caesarean section, failed progress of labour, malpresentations and obstructed labour were indications in 26.21%, 18.9%, 14.3%, 13%, 10.9% of patients which is in accordance with many local studies⁹.

In our study 74.7% of operations were done in emergency and 25.2% were elective. it is comparable with local studies where it was 80.29% and 19.70% respectively. Proportion of emergency cases in any hospital depends upon a number of factors e.g., catchments area, type of obstetric population, ratio between booked and unbooked cases and referral role of hospital. Other general factors are socio-economic condition of patient, literacy rate, provision and utilization of ante natal care and timely referral by TBA. About 61.9% cases delivered in our unit are unbooked. Most of them are poor and anaemic and likely to have more complications when operated in emergency than elective cases. Moreover they present with prolonged labour, obstructed labour, fetal distress and prolonged rupture of membranes with repeated examinations in unhygienic conditions by TBA. All these factors predisposes to various materno-fetal complications in emergency situations specially. On the other hand as elective caesarean is a planned operation and all maternal risk factors are identified before surgery and treated accordingly¹⁰.

Overall intraoperative complications in our study occurred in 58 patients out of which 54(93.1%) belonged to emergency and 4(6.9%) belonged to elective group. Neilson showed that intraoperative caesarean section complication rate 11.6% with elective patients having low complications as compare to patients operated in emergency. Present study showed more blood transfusions in emergency section group as haemorrhage and anaemia were more frequently encountered. Extension of uterine incisions/tear, injury to adjacent viscera, caesarean hysterectomy and difficult endotracheal intubation found only in emergency group and might be the result of poor surgical techniques by junior surgeons.

Post operative complications were more frequent in emergency group i.e., 150(92.6%) patients out of 162 in total. Main post operative complication was infection morbidity encountered in emergency group mainly. 2 mothers died in emergency caesarean group. DIC, VVF

and DVT being the other post operative complications seen in only emergency group.

Conclusion:

Our study reflects a high proportion of emergency caesarean section with its associated maternal morbidity and mortality. Prevention must necessarily include improved organization of antenatal care through TBAs and good supervision during labour. Adequate continuing education of primary health providers and traditional birth attendants is essential for early detection of pregnancy and labour complications. Mass media can play an effective role to educate ordinary women about pregnancy related risk factors and utilization of existing health facilities. Apart from good antenatal preparation of mother, we can reduce the caesarean section rate by encouraging trial of scar after one caesarean delivery, proper monitoring of labour, use of partograph and timely use of oxytocin to augment labour as to prevent failure to progress in labour. Proper sterilization and antibiotics can reduce the infectious morbidity after both emergency and elective caesarean sections.

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