A Study of Secondary PPH Following Caesarean Section

Joydeb Roy Chowdhury, Debasis Bandyopadhyay

Dept. of Obstetrics & Gynaecology, Bankura Sammilani Medical College, Bankura

Summary

Eighteen patients with secondary postpartum haemorrhage following Caesarean Section admitted during the period of January'97 to December'99 at N.R.S. Medical College, Calcutta, were analysed to identify the epidemiological factors, aetiology, management procedures and preventive measures, if any, for reducing these life threatening emergencies. In our study, only 28% patients responded to conservative treatment and rest needed surgery. Twentytwo percent required emergency hysterectomy while conservative surgery with scar excision and repair were successful in 50% cases on which our study has mostly stressed on.

Introduction

Incidence of caesarean section is on the rise reaching 15 – 25% which varies considerably between centres and countries (Stephenson et. al). But uncertainty still exists about risks of the operation as indications are progressively widened and concern is expressed amongst health professionals and consumers about its increasing use (Chamberlain). This study reveals secondary PPH as one of the the life-threatening obstetric emergencies following caesarean sections which demands extreme Critical care at tertiary level to save the patients.

Materials & Methods

Eighteen patients referred from outside were admitted at N.R.S. Medical College, Calcutta during the period of 3 years from January'97 to December '99 with severe bouts of haemorrhage following Caesarean section. All patients had been critically analysed, treated and aetiology identified for preventive measures which can minimize these complications.

Results & Analysis

Table I gives epidemiological background of 18 patients. Eleven (61%) patients were in 20 to 30 years of age group. 8 (45%) patients had parity one and 10 (55%) patients had parity two and three. 10 (55%) patients were resident in rural areas and 5(28%) belonged to poor family.

Table II analyses the clinical profile of the patients admitted critically. All patients were admitted through emergency. Eleven (61%) patients had severe bleeding commencing between 15 30 days of operation. Eight (44%) patients had primary caesarean operation and 10 (56%) cases had previous 1 or 2 caesareans.

Table III gives indications of caesarean section following which secondary PPH resulted. Five (28%) patients responded to conservative regime with I.V. electrolytes infusion, blood transfusion, antibiotics and occasional hormones. But in 13 (72%) cases, scar excision with repair was attempted. Four (22%) patients required hysterectomy and in 9 (50%) cases, scar excision and repair became successful. In 4 (22%) of these 9 cases, bilateral ligation of anterior division of internal iliac artery was done as additional step to control the bleeding from scar wound.

Eight (44%) patients had scar dehiscence with active granulation tissue bleeding inside the uterus. 4

Table – I: Epidemiological Features

Age	< 20 Yrs.	20 – 30 Yrs.	> 30 Yrs.
	5 (28%)	11 (61%)	2 (11%)
Parity	1	1 – 3	> 3
	8 (45%)	10 (55%)	0
Socio Economic Status	Poor	Middle	Upper
	5 (28%)	12 (61%)	1 (5%)
Residence	Rural	Urban	
	10 (55%)	8 (45%)	

Table – II: Patient Profile

1. Mode of Admission	Emergency		Elective
	18 (100%)		-
2. Onset of heavy bleeding after LSCS	< 7 days	7-15 days	> 15 days to 1 month
	0	7 (39%)	11 (61%)
3. No. of Previous CS	0	> 1CS	>2or more CS
	8 (44%)	6 (34%)	4 (22%)
4. Type of LSCS	Emergency	Elective	
	13 (72%)	5(28%)	

Table III

Indications of LSCS :	Fetal Distress	Non-progress of Labour	APH	Obstructed Labour
Emergency (13) :-	3	5	2	3
Elective (5) :-	Post CS	Rpt CS		
	3	2		

Table IV: Etiology

		Causes
1. Infected & Necrotic Wound granuloma	:	8 (44%)
2. Scar wound Dehiscence	:	5 (28%)
3. Deciduitis	:	5 (28%)
4. Retained bits of placental tissue & membranes	:	Nil

(22%) of them had total disruption of scar beyond repair with erosion of major uterine vessels for which hysterectomy had to be performed to arrest the bleeding. Scar dehiscence as a result of infection and early absorption of suture materials was detected in 5 (28%) cases.

Table VI gives the possible aetiological factors

causing life – threatening secondary PPH. Eight (44%) patients bled from necrotic wound granulation tissue eroding the wall of blood vessels; 5 (28%) had scar wound dehiscence with free bleeding margins; 5 (28%) might have had infective endometritis or deciduitis which responded to antibiotics & hormones.

Discussion

In this series of 18 patients referred from outside and admitted for life-threatening emergency, majority of patients (89%) were of the age group below 30 years. 44% of patients had primary caesarean and 56% had one or more previous caesarean sections. Seventytwo percent of these caesarean sections were performed in emergency hours on emergency indications out of which prolonged labour was the topmost indication reflecting infection as one of the major causes of secondary PPH. All elective caesarean sections for previous caesarean may have resulted in poor union of scar. On further analysis of onset of bleeding episodes, all patients developed complication after discharge from hospital. Majority(61%) started heavy bleeding 15 days after operation. All 18 patients were admitted in critical condition necessiating immediate resuscitation with I.V. fluids, high dose of antibiotics and blood transfusion to stabilize the condition. Clinical subinvolution of uterus was detected in all cases. In 13 patients who required surgery, bleeding pattern was characteristic, they used to bleed heavily for 24 – 48 hrs. which ceased spontaneously for 5 – 7 days. This was followed by recurrence of similar episodes of heavy bleeding with acute collapse of the patients. USG was done in all cases. Empty uterus was recorded in 28% patients which responded to conservative treatment and in the remaining scar separation and echogenic debris were identified around the region of lower segment scar. D & C was not done in any of these cases as it might precipitate heavy bleeding. Laparotomy was decided on the basis of characteristic pattern of bleeding episodes not responding to conservative treatment and USG findings. In 28% patients, uterine size was gradually reduced alongwith cessation of bleeding with conservative treatment. In the remaining cases where surgery was performed, unhealthy scar with necrotic granulation tissue was detected after bladder was pushed below the scar line; some of the granulation tissue eroded into blood vessels at angle of scar producing heavy bleeding. Scar margins gave way easily when bladder was pushed below scarline. Margins were secured with Babcock's forceps and unhealthy tissue & scar was excised to reach the healthy margins for repair. In 4 cases, scar margins were destroyed beyond repair and hysterectomy had to be performed to arrest the bleeding. In 9 cases, resuturing of the healthy scar margins was successful with interrupted 1 'o' vicryl sutures. Four of these 9 patients required additional bilateral ligation of anterior division of internal iliac artery to stop the bleeding. Larsen et al (1995) advocate uterine wound debridement & resuturing in patients of secondary PPH following Caesarean section as a first line of surgical treatment and hysterectomy only for patients with irreparable scar and for elderly patients with completed family.

On further analysis of these patients during surgery, possible preventive steps during primary surgery are formulated which could reduce such life threatening PPH. These include (1) Adequate pre & post-operative antibiotics in potentially infected cases like obstructed labour, PROM, APH, chorioammionitis etc. (2) Smooth delivery of baby with adequate uterine incision thus preventing injury to major vessels from extension of angles. (3) Bleeding vessels should be secured separately with delayed absorbable polyglycolic acid suture material. (4) Perfect haemostasis during Ist layer closure (5) Excision of previous fibrotic scar in repeat. Caesarean cases to get the healthy margins for repair (6) Other measures include restricted PV examinations in labour, early identification of labour arrest to prevent prolonged or obstructed labour. Improvement of anaemia etc.

Conclusion

Obstetric haemorrhage following caesarean section is alarmingly high which can be largely avoided by careful measures so as to reduce maternal morbidity & mortality due to caesarean child-birth.

References

1. Chamberlain G., Obstet and Gynaecol 100 ; 403, 1993.
2. Larsen J. V., Janowski K., Krolilowski A;dehiscence, Cent Afr. J. Med.; 41:294, 1995.
3. Stephenson PA, Bakoula C, Hemminiki, E., Paediatric Perinatal Epidemiology, 1993 ; 7 : 45.