UTERINE AND EXTRAUTERINE HAEMORRHAGIC COMPLICATIONS IN EARLY PUERPERIUM REQUIRING SURGERY

by

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Introduction

Haemorrhagic complications in puerperium may lead to maternal morbidity as well as mortality at times. A good number of these complications are within the reach of prevention if ante and intranatal supervision is critically adhered to. However, in some cases they could not be anticipated beforehand and surgical interferences are required even more than once at times to control this haemorrhage and to prevent the mothers from bleeding to death.

Haemorrhages during early puerperium (within 3 weeks) may be either uterine or extrauterine, the latter again may be either genital or extragenital. Amongst all these haemorrhages, uterine haemorrhages carries more risk and fatalities may occur if not properly cared for. This study, therefore, is aimed to find out their prevalences and causations, so that their occurrences can be minimised and morbidity or mortality associated with them avoided.

Material and Methods

A total 156 cases of different haemorrhagic complications at puerperium needed surgical interventions during the 2 year period from 1st August, 1976 through 31st July, 1978 in the Eden Hospital. In the same period, a total 18,410 deliveries occurred and 227 patients suffered from haemorrhagic complications during early puerperium. The incidence of this type of complication is thus 1.24 per cent.

Observations

Table I shows the causes of haemorrhages during early puerperium in total number of such cases and those who needed surgery.

It is evident from the above table that amongst the total 227 cases suffering from haemorrhagic complications, 156 (78.72 per cent needed surgery. Amongst these 227 cases, 141 (62.1 per cent) had uterine haemorrhages and 95 (67.3 per cent) amongst these 141 required surgical treatment. Extrauterine haemorrhages were present in 86 cases when surgery was required in 61 cases (70.93 per cent). All these extrauterine haemorrhages were from genital sources except in 1 case (1.16 per cent) of rectus sheath haematoma.

Uterine Haemorrhage

There were 82 cases (86.3 per cent) of postpartum haemorrhage, twelve cases (12.65 per cent) of cervical tear and 1 (1.05 per cent) case of scar rupture

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amongst 95 total cases of uterine haemorrhages where surgery was needed. Individually, surgical intervention was needed in 40, 91.8, 100 and 100 per cent cases of primary and secondary postpartum haemorrhage, and in cases of scar rupture and cervical tears, respectively amongst their respective number of hospitalised patients (Table I).

TABLE I

Causes of Haemorrhage

Type of cases	Uterine Haemorrhage				Extrauterine Haemorrhage			
	Postpartum haemorrhage		Haemorrhage from scar rupture	Cervical tear	Genital			Extra genital rectus sheath haematoma
	Primary	Secondary			Para vaginal and vulval haemotoma	Secondary haemorrhage from episiotomy	Para urethral tear	
Total Entry	67	61	1	12	63	7	15	1
Surgery done	26 (4.0%)	56 (91.8%)	1 (100%)	12 (100%)	53 (86.1%)	2 (28.57%)	5 (33.3%)	1 (100%)

Postpartum Haemorrhage

Postpartum haemorrhage, both primary (31.7 per cent) and secondary (68.3 per cent) in combination, alone was the indication of surgery in 82 (52.5 per cent) cases amongst total 156 cases of postpartum haemorrhage who underwent surgical interventions in this series and these 82 cases formed 64.06 per cent amongst 128 total cases of hospitalised postpartum haemorrhagic patients. Remaining 46 (35.94 per cent) cases who were mostly of primary types and having only mild to moderate oozing were controlled by Syntocinon drip (20-80 units) and Ergometrine along with fluid and blood transfusion. Amongst the 26 cases of primary postpartum haemorrhage, 5 (19.2 per cent) were admitted after home confinements. These total 82 cases with surgical interventions were again of different age group and belonged to different parities (Table II).

It is observed from the above Table that the patients of 2nd parity required surgical intervetions more frequently for their postpartum haemorrhage, compared to their hospital admission.

Amongst 128 cases of postpartum haemorrhage, both primary and secondary of this series, 58 (42.1 per cent) were para 2 and 38 (29.6 per cent) of them were below 20 years.

Amount of Blood Loss

In this series bouts of haemorrhage

TABLE II
Distribution of Age and Parity

	Upto 20 yrs.	21-30 yrs.	31-40 yrs.	Above 40	Para 1	Para 2	Para 3-4	Para 5
Total 82	26 (31.7%)	44 (53.65%)	12 (14.63%)	—	24 (29.2%)	34 (41.46%)	18 (21.94%)	6 (4.87%)
Percentage of Obstetric admission	16.1	75.7	7.5	0.7	39.8	27.2	24.8	8.2

varied between 1 and 5 in secondary postpartum haemorrhage cases, when average blood loss in them in each bout amounted approximately to 300 to 500 ml. The onset of haemorrhage in secondary postpartum haemorrhage cases occurred before 7 days in 15 cases (27 per cent) in between 7 and 12 days in 35 cases (63 per cent), and between 13 and 21 days in the remaining 6 (10 per cent) cases. (Total 56 cases—postpartum haemorrhage).

The above Table shows that associated maternal disorders were present in 20 (24.37 per cent) cases of postpartum haemorrhage where surgery was done.

Amongst these 62 patients, 10 (12.2 per cent) were booked cases, when booking facilities were availed of in this hospital by 5 to 6 per cent of patients. Twenty-two cases (26.5 per cent) came from middle-class family, rest (73.5 per cent) belonged to low income group. Amongst these 82 patients, 66 (72.3 per cent) were Hindus, 15 (18.5 per cent) were Muslims and 1 (1.2 per cent) was Christian.

It is evident from the above Table that 4 cases (4.87 per cent) needed hysterectomy alone and other 3.65 per cent patients needed hysterectomy and ligation of internal iliac artery to control bleeding. Hysterectomy thus was done in 7 (8.52 per cent) cases.

The causes of postpartum haemorrhage in 82 cases were placental pieces and membranes in 37 cases (45.14 per cent), decidua and blood clots in 35 (42.7 per cent), atonic postpartum haemorrhage in 6 (7.41 per cent), deciduitis (histologically proved) in 2 (2.5 per cent) and broad ligament haematoma in 1 (1.22 per cent) and Couvelaire uterus in 1 (1.22 per cent).

TABLE III
Associated Maternal Disorders

	Anaemic	Accidental haemorrhage	Placenta praevia	Pre-eclampsia	Heart disease
Positive 20 (24.37%)	3 (3.65%)	7 (8.53%)	1 (1.22%)	8 (9.75%)	1 (1.22%)
Negative 62 (75.63%)					

TABLE IV
Mode of Delivery and Types of Intervention in These 82 Cases

Mode of Delivery	No. and Per cent	Types of Surgical interventions	No. and Per cent
Normal	49(59.75%)	Exploration	72(87.8%)
Forceps	19(23.17%)	Exploration and uterine packing	3(3.65%)
Assisted breech	5(6.09%)	Exploration and hysterectomy	4(4.87%)
Lower uterine caesarean section	9(10.97%)	Ligation of internal Iliac artery and hysterectomy (Extraperitoneally — 2 and Intraperitoneally — 1)	3(3.65)

TABLE V
Analysis of (A) 4 Hysterectomy and (B) 3 Hysterectomy with Ligation of Internal Iliac Artery Cases

(A)

Age	Parity	Mode of Delivery	Indication for Hysterectomy
27	3	L.U.C.S. for post caesarean section	Severe primary P.P.H.—Coagulation failure.
34	1	L.U.C.S.—outside for prolonged labour	5 bouts of P.P.H.
21	2	Normal delivery— post caesarean cases	4 bouts of P.P.H.
25	2	Normal	Severe P.P.H.

(B)

Age	Parity	Mode of Delivery	Indication for Hysterectomy	Indication for ligation of Iliac Artery
38	1	L.U.C.S. for pre-eclamptic toxaemia	P.P.H. 2 bouts	Bleeding per vagina
32	4	L.U.C.S. for placenta praevia	P.P.H. 2 bouts severe	Bleeding per vagina 2 bouts
18	1	L.U.C.S. for C.P.D.	Broad ligament haematoma and paravasical haematoma	Bleeding per vagina 2 bouts

Exploration along with intravenous Syntocinon drip, blood and exploration controlled postpartum haemorrhage in 72 cases (35 + 37). Six cases of atonic postpartum haemorrhage were controlled by exploration packing in 3, hysterectomy in 1 and hysterectomy followed by internal iliac artery ligation in 2.

Mortality in Cases of Postpartum Haemorrhage (82 rases)

One (1.22 per cent) death occurred amongst 82 cases, the patient, an unbooked cases died following exploration due to irreversible shock and nonavailability of adequate blood. The precipitating cause was moderate anaemia. However, total 3 deaths (2.3 per cent) occurred during this period amongst total 128 cases of postpartum haemorrhage.

Vulval Haematoma

There were total 63 cases of vulval haematoma, 53 (84 per cent) of them surgically treated. Thirty-five (66 per cent) were para 1, 13 (24.5 per cent) were para 2 and 5 (9.5 per cent) were para 3.

Amongst these 63 cases, 21 (39.9 per cent) had normal deliveries, 18 with episiotomy and 3 without. Thirty-two of them (60.1 per cent) were delivered by forceps, 4 of them were applications on after-coming head of breech. Three cases of normal delivery without episiotomy, haematoma occurred due to excessive stretching of perineum at delivery. In 4 cases where episiotomy was undertaken, haematoma developed on the other side from excessive laceration. Most of these 53 cases, 21 (19.9 per cent) were aged below 20 years. The contents of haematomas approximated to 300 to 400 ml. of blood in 28 cases (53.2 per cent), 400 to 800 ml. in 10 cases (19 per cent) and in the remaining 15 cases (28.5 per cent). the contents varied between 100 and 300 ml. In all these 53 cases drainage of haematomas were done within 24 to 48 hours. Bleeding points were detected in the apex of the episiotomy wound in 24 cases (45.6 per cent), and in the remaining 29 (54.4 per cent) cases no spurting vessels could be identified. Blood transfusions were needed in 42 cases (79.8 per cent) and no mortality occurred.

Cervical Tear

There were 12 cases of cervical tear, all of them needed surgery as active bleeding was present. One of them was a case of cervical dystocia in a primigravida where vaginal delivery occurred through a semilunar rent on the posterior lip of the cervix. The repair was done to control bleeding and to restore anatomy. Besides this case all the other 11 cases had lateral cervical tear with continuous bleeding.

All the 15 cases of paraurethral tear occurred following normal delivery, in 5 of them (33.3 per cent) moderate amount of haemorrhage indicated suturing.

A case of caesarean scar rupture occurred in a 23 year-old 2nd gravida following vaginal delivery with low forceps. Moderate amount of postpartum haemorrhage occurred and the scar rupture was repaired abdominally with ligation.

A case with rectus sheath haematoma was admitted after caesarean section done elsewhere on the 3rd postoperative day. The huge haematoma was in the left side as the incision for section was on that side. Haematoma was caused by torn inferior epigastric vessels of left side.

Discussion

The puerperium, although frequently uncomplicated and therefore, though now-a-days little regarded, may encounter the first appearance of serious and

sometimes fatal disorder. Haemorrhagic complications during early puerperium (within 3 weeks) are not uncommon and vary between insignificant haematoma to severe blood loss causing shock and threatening maternal life. Timely effective treatment including surgery may help in saving these lives.

In the present series the haemorrhagic complications in early puerperium were present in 227 cases, covering a period of 2 years in Eden Hospital. Amongst these 227 cases surgery was indicated in 156 cases to minimise the maternal morbidity and mortality. Minor surgery indicated drainage of vulval haematomas in 53 cases, exploration of uterine cavity and/or plugging in 75 cases, repair of cervical and paraurethral tears in 12 and 5 cases respectively, drainage of rectus sheath haematoma in 1 case and repair of ruptured scar in 1 case. Major surgery included hysterectomy in 7 cases, 1 combined with ligation of internal iliac arteries (intraperitoneally) conjointly and in 2 other cases on subsequent dates. These procedures prevented maternal deaths which occurred only once in this series after exploration of uterus in a primary post-partum haemorrhage case due to irreversible shock.

In this series postpartum haemorrhage frequently occurred in patients aged below 20 years and also in second para compared to their frequency of hospital admission. These observations were contradictory to that of Donald (1969) who reported that high degree of multiparity predisposed to postpartum haemorrhage. In the current series associated maternal disorders were present in 24.3 per cent cases of postpartum haemorrhage and uterine exhaustion from prolonged labour was responsible for most of the cases of primary postpartum haemorrhage, including 6 cases of atonic uterus and 8 other cases where labour was somewhat prolonged (more than 24 hours). Majority of these primary postpartum haemorrhage could have easily been prevented by extending proper ante and intra-natal care and without allowing prolonged labour including active management of third stage.

In addition to these 26 cases of primary postpartum haemorrhage, there were 56 cases of secondary postpartum haemorrhage due to retention of small bits of placental tissues of membranes (35 cases). In another 37 cases only blood clots were removed by exploration. In Dewhurst's series (1972) placental fragments were confirmed in 29 out of 89 cases of secondary haemorrhage. Donald (1969) also stated that clot in the uterus is one of the most common causes of secondary postpartum haemorrhage. In primary postpartum haemorrhage the routine treatment of injection ergometrine maleate, intravenous syntocinon and blood transfusion are sufficient enough to control haemorrhage in a good percentage of cases, others requiring exploration along with routine treatment. In majority of the secondary postpartum haemorrhage, exploration is necessary to stop haemorrhage. This procedure was followed effectively in the present series also with favourable result.

However, in exceptional cases of early postpartum haemorrhage bleeding may continue despite all these treatment including intrauterine plugging. The last resort is then hysterectomy which in number of occasions undoubtedly can save the lives of the patients. The major surgery were undertaken in 7 cases of present series, where other meethods of treatment failed. In 5 of these 7 cases hysterectomy was done for haemorrhage

following lower segment caesarean section due to atonic postpartum haemorrhage (2 cases), Couvelaire uterus (1 case), subinvoluted uterus with deciduaitis (1 case). In 2 other cases hysterectomy was done for severe atonic postpartum haemorrhage (1 case) and subinvoluted uterus with deciduitis following normal delivery. Hysterectomy was done in the case of broad ligamentary haematoma with bilateral intraperitoneal ligation of internal iliac artery to stop haemorrhage. Tying of these arteries (extraperitoneally) in 2 other cases to stop bleeding from the vaginal vault subsequent to hysterectomy which could not be controlled otherwise. Though ligature of internal iliac artery is technically easier and safer than tying of uterine artery (Waters, 1952), care must be taken to avoid the ureter. Though this is an extensive surgery not commonly practised except in exceptional circumstances yet this was able to save 3 lives in this series.

Vulval haematoma is one of the commonest haemorrhagic complications due to failure of perfect suturing of episiotomy wound where paravaginal vessels were left behind unsutured (Whitridge Williams, 1904). Haematoma of this type was also observed in this series following normal delivery due to extensive stretching of perineum with venous rupture (Pieri, 1958). Though usually routine treatment of drainage is sufficient, yet blood transfusion may be needed in large haematomas.

Haemorrhages during early puerperium are not uncommon and if extensive may endanger the maternal life. Extensive surgery such as hysterectomy and ligation of internal iliac artery are needed at times to minimise maternal mortality.

Summary

Two hundred and twenty-seven cases of uterine extrauterine haemorrhage during early puerperium convering two years' period were treated in the Eden Hospital, Medical College, Calcutta. Surgery was indicated in 156 cases. There was one maternal mortality. Extensive surgery such as hysterectomy and ligation of internal iliac artery were practiced in desparate cases with encouraging result.

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