

ACCIDENTAL HAEMORRHAGE — A CLINICAL STUDY *

by

ANUSUYA DASS, M.R.C.O.G.

and

S. VOHRA, M.D., D.G.O.,

Lady Hardinge Medical College, New Delhi.

Premature separation of the normally situated placenta has been regarded as potentially the most dangerous form of obstetrical haemorrhage in the last trimester of pregnancy.

This condition was first distinguished from placenta praevia by Rigby in 1779. Goodell, in 1875, called attention to the high mortality

This is a review of 74 cases of accidental haemorrhage treated in the Department of Obstetrics & Gynaecology of the Lady Hardinge Medical College Hospital, New Delhi, in the last 2 years. Investigations, like fibrinogen level and fibrin index, etc., have not been possible due to lack of facilities.

From Table I, it is apparent that

TABLE I

Total no. of A. P. H. cases.	Placenta praevia	Accidental haemorrhage	Undelivered	Unclassified
581	107 18.40 %	74 12.56 %	146 25.33 %	254 43.71 %

in patients suffering from this catastrophe. From then onwards many writers have described its association with albuminuria, toxæmia, chronic nephritis, hypertension, etc. De Lee, in 1901, postulated a haemophilic-like condition in the blood of patients suffering from such a condition, whereas Wilson, in 1922, mentioned a defect in the coagulation mechanism. Dieckmann, in 1936, noted decreased fibrinogen in some cases of accidental haemorrhage, the term now known as hypo-fibrinogenaemia.

the clinical classification of antepartum haemorrhage is not very satisfactory, as in over 68% of the cases the cause of haemorrhage is unknown. Placenta praevia is more common, contributing to 18.4% of the cases. Kimborough showed, however, in his 14 years' survey that accidental haemorrhage was more than twice as common as placenta praevia in Philadelphia. It is possible that the high fertility in our country may be responsible for this change in the incidence. In years 1959-1960, the total number of confinements in our hospital were 9,760 giving an incidence of abruptio placentae as 1/132.2 deliveries.

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TABLE II

Years	Total no. of deliveries	No. of patients	Incidence	deliveries Percentage
1959-60	9790	74	1/132.2 deliveries	0.75 %

This incidence is, however, by no means constant and seems to vary from clinic to clinic. Kimborough and Jones reported an incidence of 1/250 deliveries over a period of 12 years' study. Dyer and McCaughey reported 1/64, Daro and co-workers 1/238 deliveries while Chientienhsu has reported 1/48 confinements. This difference in frequency is, perhaps, caused by different criteria used in the diagnosis of abruptio placentae. The incidence in the literature ranges between 1/51—1/300 deliveries. This figure rises if only toxæmic patients are also included. Our study includes only proved cases of accidental haemorrhage which showed the presence of old or recent retroplacental clot formation. The clot was sizable and was attached to the maternal surface of placenta forming a depression at the same area, often showing unequivocal changes in colour of the maternal placental surface. Minute retroplacental clots or small organised areas of separated placental tissue were excluded from the series.

trauma, version or previous operations on the uterus was found in any of these cases. Though no battery of kidney function tests was performed yet none of the cases presented any clinical symptoms suggestive of kidney lesion, if the toxæmic cases were excluded. In 136 of his cases Dieckmann found 69% associated with toxæmia of pregnancy. Recent work, however, both in this country and abroad, has shown that the incidence of toxæmia is much lower. In the present group of patients it was 31%, whereas in Kimborough's series it is only 8.8%. Hertig claimed the toxic separation of the placenta is a form of uterine eclampsia since fatal cases showed hepatic lesions indistinguishable from eclampsia. Considerable work is being done to explain those cases of accidental haemorrhage in which no cause could be discovered.

Hypotension has been cited as a causal factor by various workers like Smith and Fields, Crawford and Murry in causing premature separa-

TABLE III
Etiological Factors

Total no. of cases	P. E. T. percentage	Hylramnios percentage	Twins percentage	Eclampsia percentage	Idiopathic percentage
74	23 - 31	1 - 1.3	1 - 1.3	1 - 1.3	48 - 64.8

From this table it is clear that no cause or associated condition could be discovered in nearly 64.8% of the cases. No history of any external

tion of placenta especially where spinal anaesthesia has been administered. Nesbitt and Holmes have described the supine hypotensive syn-

drome as a factor. No correlation with hypotension was found in our cases.

TABLE IV

Age	No. of cases
20 years or less	14
21-30 years	41
31-40 years	16
41-50 years	3

Table IV shows that the maximum number of the cases was found between the ages of 21-40 years, the period of greatest fertility. Women below the age of 30 years are reported to be relatively less liable but in our series 74.4% of the cases are in the above age group. Here the maternal age at marriage and probably at the first child-birth play an important rôle. The youngest patient was 18 years and the oldest was 40 years of age.

TABLE V

Primi	2nd	3rd	4th	5th	6th	7th	8th	9th	10th & above
17	3	4	10	17	12	7	2	1	1

With regard to this table, 4th, 5th, 6th & 7th pregnancies appear to be specially liable. These findings are in agreement with Chientienhsu and co-workers who found that the incidence in grand multipara is 10 times as high as primigravida. Dorsett, in 1945, stated that incidence is high in primipara, but more recent work has not substantiated his finding.

In our series, proportion of primipara to multipara was 22.9 to 77.7%.

Duration of gestation was investigated to see if any certain period of pregnancy was more prone to premature separation of the placenta.

TABLE VI
Duration of Gestation

Weeks	No. of cases
28 weeks	4
32 weeks	9
34 weeks	23
36 weeks	33
40 weeks	5

The first noticeable point in the above table is that the maximum number of cases occurred at 36 weeks, this can be explained by the fact that placenta at this time is mature and delivery can be expected at any time. Very little stimulus is thus required for abruptio placentae to occur. Any stimulating factor, physical, toxæmic, hypertension or traumatic, may cause this condition. Average duration of pregnancy in our series was found to be 33.3 weeks.

TABLE VII
Symptomatology

No.	Symptoms and signs	No. of cases
1.	Vaginal bleeding	65
2.	Abdominal pain	In practically all the patients.
3.	Tense uterus	22
4.	Albuminuria	32
5.	High B.P.	23
6.	Oedema	10

This table shows that vaginal bleeding was the presenting symptom in 89% of the cases whereas some abdominal pain was found in all the

patients. Albuminuria was the next commonest sign. It was also found that the constitutional symptomatology was in direct proportion to the amount of haemorrhage. Severe cases commonly occurred before the onset of labour.

lower than quoted anywhere in the literature. The cause of this discrepancy is not at all clear. Even though the number of the cases studied was not many, yet there is a definite lowering of fibrinogen level in cases of accidental haemorrhage as compared

TABLE VIII

Total cases	Mild	Percentage	Moderate	Percentage	Severe	Percentage
74	43	58.1	25	33.8	6	8.1

This table shows the subdivision of the cases into mild, moderate and severe varieties. Mild cases were those where there were no symptoms or signs other than vaginal bleeding and were generally diagnosed in retrospect after the inspection of the placenta. Moderate cases were those where hypertonicity of the uterus was present along with the vaginal bleeding with little or no shock. Foetal heart sounds were more often absent in this group. In the severe cases the uterus was distended, tense and very tender. No foetal parts could be made out and there was associated moderate to severe degree of shock. Foetal heart sounds were absent in practically 100% of the cases.

Clot retraction test was done in 14 cases. In only one case blood did not clot for half an hour; no abnormality was discovered in rest of the cases.

Bleeding and clotting time was also done in as many cases as possible. There was no variation in results from normal except in one. Quoted below are the fibrinogen levels as observed in another series of patients at Lady Hardinge Hospital.

One striking feature of this table is that all the fibrinogen levels are much

TABLE IX

Types	Average fibrinogen level
1. Non-pregnant	170.32 mgm. %
2. Normal pregnant	245.35 mgm. %
3. Accidental haemorrhage	194.92 mgm. % (in 12 cases)

to normal pregnant women. The severe cases, however, showed a greater fall in the fibrinogen levels. Haemoglobin varied from 2.5 gms. to 10 gms., but majority of the cases were between 7 and 10 gms. In some of the moderate and severe types of cases, the haemoglobin level fell down sufficiently to warrant an early replacement of blood by transfusion. In 8 cases besides other treatment blood transfusions from 300-1000 c.c. were given.

TABLE X
Income Group

No. of cases	Below Rs. 100	Between Rs. 100-300	Above Rs. 300
74	23	50	1

This table shows that majority of the patients belong to low income group where the maternal nutrition is poor and the patients are anaemic even before the onset of pregnancy.

TABLE XI
Management

Type of delivery	No. of cases	Percentage
Vaginal	72	97.3%
C. section	2	2.7%
C. hysterectomy	Nil	0%

From this table it is clear that vaginal delivery has been the method of choice; whereas the method of treatment is the same in all the clinics in the mild cases, in moderate and severe cases there is no uniformity. The controversy between caesarean section and vaginal delivery in the latter cases is by no means settled. Caesarean section rate has been reported as 37.8% (Dyer and McChaughey). In our patients it was only 2.7% and there was no case of caesarean hysterectomy. The line of treatment adopted has been mainly conservative, i.e. sedation combined with artificial rupture of membranes. Weiner, Reid and Roby have stated that artificial rupture of membranes by reducing intra-cavity pressure often will reduce absorption of thromboplastin and improve the reflex ischemia of the kidneys. In cases where labour was sluggish following artificial rupture of membranes, pitocin drip 1/5000 to 1/2500 was given under strictly controlled conditions with very satisfactory results. A strict watch on urinary output was kept to assess renal function. Antibiotics were freely used. Other symptomatic treatments were instituted whenever required.

TABLE XII

Weights of placenta	Weights of retro-placental clots
Range 8 ozs.—1.2 lbs.	3 ozs.—2.2 lbs.
Average 14 ozs.	Average 11.8 ozs.

The placentas were weighed in all the cases and weights varied from 8 ozs. to 1 lb. 10 oz. Retroplacental clots varied from 3 ozs. to 2 lb. 2 oz. The placentas were studied in most of the cases in an attempt to correlate the placental changes with clinical findings. Macroscopic study showed increased number of infarcts in 60% of cases. Microscopic sections were studied in 10 cases but no persistence of Langhan's cells was found. The study did not reveal "immaturity of the placenta" as reported by Jeffcoate. Circumvallate placenta and marginal sinus rupture were not encountered in the above group.

Complications. Two patients developed post-partum haemorrhage in spite of all precautions but both patients, however, recovered after treatment. One patient developed anuria in puerperium; she was 30 years old, 6th gravida, admitted with 34 weeks' pregnancy, severe pain in abdomen and vaginal bleeding, 4½ hours prior to admission. Blood pressure was 250/130 mm. Hg. and albumin +++ and marked oedema of the feet was present. Blood urea report on second day was 40.8 mgm. % and rose later to 150 mgm. %. Urinary output diminished till it was only 1-3 ozs. per day. This condition lasted for nearly 72 hours, patient was treated with Bull's regime and gradually recovered completely with no residual kidney lesion. There were no cases of jaundice, thrombophlebitis, pyelitis, etc. No case of amniotic fluid embolism was observed in cases where pitocin drip was used.

Maternal Mortality. It was 2.7%. Both the patients died in the puerperium. First patient, H. K., 28

TABLE XIII

Total no. of cases	Maternal deaths	%	Foetal loss	%	Alive	%
74	2	2.7	50	67.56	24	22.29

years old, was admitted with 32 weeks' pregnancy with antepartum haemorrhage on 16-1-60 at 3-25 p.m. Uterus was very tense and no foetal parts or foetal heart could be detected. Haemoglobin was 6 gms. % and albuminuria was present but blood pressure was within normal levels. Patient was given a blood transfusion and delivered normally after artificial rupture of membranes. Five hours after delivery patient suddenly became dyspnoeic; breathing became laboured, she looked very pale and expired before anything could be done. Postmortem was refused. Possible cause of death could be pulmonary embolism. Second patient, D. K., 36 years old, 8th gravida, was admitted on 21-1-60 with 36 weeks' pregnancy and history of antepartum haemorrhage. She had severe pre-eclamptic toxæmia and was diagnosed as a case of accidental haemorrhage. Artificial rupture of membranes was done and patient delivered a still-born foetus within 12 hours of rupture of membranes. Soon after delivery, she had an eclamptic fit which was controlled with sedatives. She developed oliguria after delivery which progressed to anuria. Blood urea rose to 220 mgm. %, blood potassium also showed a rise and electrocardiographic changes were noticed. In spite of all the treatment patient died on 8-2-60. Postmortem renal biopsy showed hyalinised glomeruli with some dilatation of the tubules on the right side.

Pyelonephritis was reported on the left kidney biopsy. It is quite possible that the patient had a pre-existing kidney lesion which deteriorated as pregnancy advanced. Super-imposed toxæmia and finally premature separation of placenta resulted in kidney failure.

Our maternal mortality of 2.7% compares favourably with that of some workers—Hester & Selly 4%, Chientienhsu 15.6%, Hendleman and Fraser, however, had no maternal mortality at all. Their perinatal mortality is only 39.5% whereas our foetal loss is about 68%. There is thus a great scope for improvement in our results.

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