ACCIDENTAL HAEMORRHAGE TREATED BY CAESAREAN SECTION*

BY

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The purpose of this review of cases of accidental (retroplacental) haemorrhage occurring at Oldham General Hospital (1953-7) and at Ashton-under-Lyne General Hospital (1953-6) is to emphasize certain clinical aspects of the disease, and to draw attention to the improved foetal survival which can be obtained by the use of caesarean section in a limited group of cases.

The cases under consideration are restricted to those of accidental haemorrhage with retroplacental bleeding, as actually demonstrated at delivery by the presence of a retroplacental clot of whatever size. Cases in which the haemorrhage was entirely revealed have been excluded, likewise placenta praevia.

The hospitals at which these cases have been treated are situated in adjacent areas on the periphery of Manchester, and together serve an industrial population of about 500,000 people. For this reason, and because the methods of assessment and treatment at each centre are identical, the data are presented as a whole.

Material

Incidence.—Over the five-year period in question, 12,657 patients were delivered in the two hospitals, with 466 stillbirths (36 per thousand deliveries) and 325 neonatal deaths (25 per thousand deliveries). There were 92 cases of accidental haemorrhage (less than 1% of the total deliveries)—37 live births, 52 stillbirths, and 3 deaths in the neonatal period. There were no maternal deaths. Cases admitted as emergencies were twice as many as booked cases, but the results were approximately the same for both classes (Table I). Retroplacental haemorrhage associated with delay in or failure of the blood-clotting mechanism and afibrinogenaemia was seen in only two cases, and the combination is considered to be rare.

Clinical Groups.—The cases fell into three groups (Table II). It should be noted that while the most common type of case is the classical concealed or mixed haemorrhage with shock and intrauterine foetal death, there is also a large group of cases presenting with clear-cut evidence of concealed or mixed haemorrhage in which shock is absent or minimal and in which the foetal heart sounds are present on admission to hospital. This group has to be distinguished from yet a third type of case which does not present as one of accidental haemorrhage at all; in these cases the only evidence of placental separation is the presence of a small adherent retroplacental clot when the placenta is examined after delivery; and vaginal bleeding, if it occurs at all, may be so slight that its significance is not appreciated. Careful observation of the foetal heart rate in labour may reveal distress at some stage, however, and in general these cases are treated as cases of foetal distress, the reason for which is not apparent until after delivery.

Toxaemia of Pregnancy.—The standard of toxaemia adopted was a rise of blood pressure to 140/90 alone

TABLE I

	Total	Live Births		Stillbirths		Neonatal Deaths	
		No.	%	No.	%	No.	%
Booked ..	32	14	44	16	50	2	6
Emergency ..	60	23	38	36	60	1	2
Total ..	92	37	40	52	56	3	3

TABLE II.—Clinical Groups

Group	Groups	Cases	Incidence
1	Frank retroplacental haemorrhage with shock and intrauterine death ..	36	39%
2	Frank retroplacental haemorrhage with little or no shock and foetal heart sounds present on admission ..	31	34%
3	Foetal distress in labour; small retroplacental clot found at delivery ..	25	27%

TABLE III.—Toxaemia and Accidental Haemorrhage

	Total	Incidence	Live Births	Stillbirths	Neonatal Deaths	Foetal Mortality
Toxaemic ..	45	49%	15	29	1	66%
Non-toxaemic ..	47	51%	22	23	2	53%

TABLE IV.—Age and Parity in Accidental Haemorrhage

Age	Total	Parity						Parity Not Recorded
		0	1	2	3	4	5	
Under 30 ..	58							
Over 30 ..	34	31	22	18	5	10	5	1
Total ..	92	71			20			1

TABLE V.—Method of Delivery

	Cases	Live Births	Stillbirths	Neonatal Deaths	Foetal Mortality
Caesarean section	16	11	3	2	31%
Vaginal delivery ..	76	26	49	1	66%

or in combination with albuminuria and/or oedema. The incidence of toxaemia was 48% and the foetal mortality only slightly higher than in the non-toxaemic cases (Table III).

Age and Parity.—The fact that pregnancies of low parity are much commoner than those of high parity, and that a higher incidence of pregnancy occurs in patients under 30 than in those over 30 years of age, is reflected in the incidence of retroplacental haemorrhage (Table IV): 77% of all the cases occurred in the first, second, or third pregnancies taken as a group, and 63% of all cases occurred in patients under 30 years of age.

The method of delivery is summarized in Table V. 76 cases were delivered by the vaginal route and 16 cases by caesarean section.

Discussion

The accepted method of delivery in concealed or mixed accidental haemorrhage is that of vaginal delivery following artificial rupture of the membranes, preceded by resuscitation in those cases where shock is a feature. This was the method of treatment in 76 cases, in which there were 26 live births and a foetal mortality of 66% (Table V). Of the 49 stillbirths in this group, intrauterine foetal death had already occurred in 36 cases on admission to hospital. In a further 13 cases the foetal heart sounds were present on admission, but intrauterine death occurred before vaginal delivery was accomplished. One of these, however, was a case of

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foetal distress without evidence of accidental haemorrhage before delivery (group 3, Table II), and, if we exclude this case, of 15 cases of frank retroplacental bleeding in which the foetal heart sounds were present on admission, only two infants survived and the perinatal mortality was 87% (Table VI). On the other hand, in

TABLE VI.—*Method of Delivery: Frank Retroplacental Haemorrhage, Foetal Heart Sounds Present on Admission (Group 2, Table II)*

	Cases	Live Births	Stillbirths	Neonatal Deaths	Foetal Mortality
Caesarean section	16	11	3	2	31%
Vaginal delivery	15	2	12	1	87%

16 cases where the foetal heart sounds were present on admission and immediate caesarean section was carried out, there were 11 live births and a foetal mortality of only 31%.

These figures, though small, suggest that the perinatal mortality can be improved by the use of immediate caesarean section in those cases in which the foetal heart sounds are present at the time of admission to hospital, and with the minimum of delay where resuscitation is necessary for reasons of shock. The onset of uterine contractions, whether spontaneous or provoked by treatment, is highly undesirable in such cases, since the foetal oxygen saturation—already prejudiced by placental separation—is likely to be further decreased and foetal asphyxia produced by the reduction of bloodflow at the placental site, which will be caused by these contractions.

There appears to be a difference of approach and emphasis in the writings of recent authors on the method of delivery in accidental haemorrhage, with reference to this group of cases. Some adopt a primarily conservative approach, in which vaginal delivery is the method of election (Eadie and Randall, 1954; Barry *et al.*, 1955), and caesarean section is reserved for those cases in which the uterus fails to contract after rupture of the membranes, or in which further retroplacental bleeding occurs, rather than as a means of obtaining a living infant when foetal heart sounds are audible. Tatum (1953) places accidental haemorrhage "associated with toxæmia" amongst his criteria for delivery by caesarean section, and a significant reduction in foetal mortality by the use of caesarean section was reported by Page *et al.* (1954). No uniform opinion is to be found in the standard textbooks: the authors of *Queen Charlotte's Textbook of Obstetrics* (1956) state that "evidence of foetal distress would occasionally justify caesarean section" in mild cases; and Greenhill (1955) prefers vaginal delivery as the method of election, reserving caesarean section for cases complicated by severe toxæmia, or in order to control haemorrhage. On the other hand Brews (1955b) advocates immediate caesarean section for cases where shock is mild and the foetal heart sounds are present. This view is also put forward by Browne and Browne (1955), who state that "caesarean section has a definite though limited place in treatment . . . a distressed foetal heart may be heard when lower segment section should be undertaken without hesitation."

A criticism of caesarean section might be made that, in the last analysis, perinatal deaths are transferred from the stillbirth column to that of neonatal deaths. This, however, has not been so in the small number of cases reported here. Moreover, it is not necessarily an

argument against the delivery of a living child by caesarean section with some prospect of survival that a very much greater risk of a stillbirth accompanies vaginal delivery.

A further interesting feature of the different series of cases reported in recent years is the varying incidence of toxæmia. In Eadie and Randall's (1954) series the incidence was only 24%, and in the series here reported the incidence is 48%. Greenhill (1955) quotes the incidence of toxæmia in Dieckmann's series as 69%, and 42% is attributed to Sexton's series at Boston. Brews (1955a) states that some degree of albuminuria is present in 80% of cases, in the majority of cases than there is evidence of pregnancy toxæmia, essential hypertension, or chronic nephritis; though albuminuria may be explained by shock alone in some cases.

The wide disparity between the reported incidence of toxæmia in the different series quoted may be accounted for by varying standards of definition of toxæmia, but it seems clear that a higher proportion of cases than has hitherto been recognized occurs without any evidence of hypertension or albuminuria at any stage of the disease.

No deductions have been made from the data of age and parity, other than to point out that these figures may be biased by the increased numbers of patients normally occurring in the age group under 30, and by the influence of voluntary family limitation on parity.

Summary and Conclusions

A series of 92 cases of accidental (retroplacental) haemorrhage occurring at Oldham (1953–7) and Ashton-under-Lyne (1953–6) is surveyed.

The incidence of toxæmia, the age and parity, and the method of delivery are discussed.

An analysis of the method of delivery suggests that the best method of delivery for those cases in which the foetal heart sounds are present on admission to hospital is by caesarean section, and this procedure is strongly advocated. The incidence of toxæmia in accidental haemorrhage is very variable, possibly because of varying standards employed in the definition of toxæmia. There is a large group of cases presenting an identical clinical picture in which hypertension and/or albuminuria does not occur, and in which there is no warning whatsoever of the danger of placental separation.

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REFERENCES

- Barry, A. P., Feeney, J. K., and Geoghegan, F. J. (1955). *Brit. med. J.*, **2**, 12.
- Brews, A. (1955a). In *British Obstetric and Gynaecological Practice: Obstetrics*, edited by E. Holland, p. 742. Heinemann, London.
- (1955b). *Ibid.*, p. 758.
- Browne, F. J., and Browne, J. C. McC. (1955). *Antenatal and Postnatal Care*, 8th ed., p. 280. Churchill, London.
- Eadie, F. S., and Randall, J. H. (1954). *Obstet. and Gynec.*, **3**, 11.
- Greenhill, J. P. (1955). *Obstetrics*, 11th ed., p. 483. Saunders, Philadelphia.
- Page, E. W., King, E. B., and Merrill, J. A. (1954). *Obstet. and Gynec.*, **3**, 385.
- Queen Charlotte's Textbook of Obstetrics*, 9th ed., p. 311, 1956. Churchill, London.
- Tatum, H. J. (1953). *Obstet. and Gynec.*, **2**, 447.