J Obs Gyn Brit Emp 1939 V-46

Placenta Praevia

A Review of 251 Cases.

BY

R. Caldera, F.R.C.S. (Edin.),
Obstetric Registrar, De Soysa Lying-in Home, Colombo.

With the object of ascertaining the local incidence and the factors that influence the mortality from placenta praevia in this country, an analysis was made of the case records of 39,704 patients who were admitted to the De Soysa Lying-in Home at Colombo during the last five years.

Table 1.

Incidence of Placenta Praevia in De Soysa Lying-in Home.

Year	Admissions	Deliveries	Cases of placenta praevia	Incidence rate for deliveries
1933	6,476	4,430	52	0.81
1934	6,562	4,469	40	1.1
1935	6,731	4,752	46	1.0
1936	9,199	5,994	51	1.0
1937	10,736	6,471	62	1.0

In the above series there are 251 cases of placenta praevia in 26,116 labours, giving an incidence of 1 in 104 labours. Stander[1] and Johnstone[2] record the frequency of this condition in hospital practice as 1 in 250; in the tropics, according to Green Armytage and Dutta[3] the incidence is 1 in 300, a rate which is about one-third of that of De Soysa Lying-in Home. On the other hand, the frequency in several hospitals agrees with our own figures. Berkeley,[4] in a series of over 500,000 cases collected from 17 British maternity hospitals, found an incidence of 1 in 98; Chakraverti,[5] in an analysis of over 50,000 cases from five large maternity hospitals in Bombay, Madras, and Calcutta, noted this complication once in about 100 labours. This author states that the incidence in India is 0.83 per cent of the deliveries, and in the British Isles it is 1.1 per cent, while

history-of-obgyn.com

in the present series it is 1.0 per cent. In relation to the total admissions, however, the incidence in this institution is 1 in 158, whereas Munro Kerr[6] found the frequency to be about 1 in 200 in the Glasgow Maternity Hospital.

The Incidence of the Varieties of Placenta Praevia.

Although it is customary to use the terms "central", "marginal" and "lateral" to express the different degrees of praevia, a certain amount of confusion still exists in the usage of the last two terms by various authors. In this paper, however, the term "central" is used when the placenta covers the os completely, the term "marginal" when it covers only a part, and the term "lateral" when it does not cover the os at all. In the present series 29.5 per cent of the cases are central, 41 per cent marginal and 29.5 per cent lateral, thus agreeing with Browne[7] who states that about one-third of the cases are of the central type. On the other hand, several authors give a much lower incidence for this type. For instance De Lee[8] states that it occurs in less than 20 per cent of the cases, and according to Stander the figures given by Koblanck, Burger and Graf, Strassman, are 18.4, 18.4, 23.8 per cent respectively, while Berkeley records an incidence of 23.6 per cent.

The incidence in relation to age, parity, and the period of gestation is shown in the following tables.

Table II.

Incidence at various Ages. 251 Cases.

Age:	16 to 20	21 to 25	26 to 30	31 to 35	36 to 40	41 to 45
Central ...	4	10	29	19	12	—
Marginal ...	5	20	43	24	10	1
Lateral ...	3	10	30	22	7	2
Total number of cases ...	12	40	102	65	29	3
Total number of labours	4036	8260	8132	4104	1424	160
Proportion of placenta praevia to deliveries:						
1 in	336	206	80	63	49	53

It will be seen from the above table that the largest number of cases of placenta praevia are found in the age group 26 to 30 years, and the age group 31 to 35 years comes next.

history-of-obgyn.com

Berkeley states that the largest number of cases is in the age period 31 to 35 years (26.3 per cent) while that in the age group 26 to 30 years (25.4 per cent) is only slightly less. It would be of special value to ascertain the frequency of placenta praevia relative to the number of labours in the respective age groups. The above table shows that, although the majority of cases are found in the age period 26 to 30 years, the frequency of placenta praevia is greatest in pregnancies after the age of 36 years. Another significant feature is that the incidence of placenta praevia definitely increases with the age of the patient.

TABLE III

THE INCIDENCE IN RELATION TO PARITY.

Gravidity ...	1	2	3	4	5	6	7	8	9	10	11
Central	6	12	8	14	4	5	8	5	3	3	6
Marginal	11	13	16	10	18	5	14	8	3	1	4
Lateral	5	9	5	8	14	7	11	4	5	3	3
Total deliveries	7768	4738	3732	3015	2290	1516	1123	748	618	366	202
Ratio of placenta praevia to deliveries:											
1 in	353	139	129	94	64	89	34	44	56	52	15

Thus only 22 cases, or 8.5 per cent, occurred in primigravidae. A higher incidence is recorded by Pankow[9] (13.5 per cent), Munro Kerr (15 to 18 per cent), and Berkeley (20.1 per cent). The proportion of multiparae to primi gravidae in the present series is 12 to 1, and according to Chakraverti it is 10 to 1 in America, 6 to 1 in India, and 5 to 1 in the British Isles. Berkeley states that he found placenta praevia occurred more commonly in the first pregnancy, but in

TABLE IV.

THE INCIDENCE IN RELATION TO THE PERIOD OF GESTATION.

Maturity	28 to 31 weeks	32 to 36 weeks	37 to 40 weeks
Central ...	10	17	47
Marginal ...	14	14	75
Lateral	11	18	45
Total	35	49	167
Total labours	826	1390	23,900
Ratio of placenta praevia to labours	24	28	143

history-of-obgyn.com

our series the frequency in the first pregnancy is as low as 1 in 353 labours. It will also be noted that the incidence is higher in the later pregnancies.

According to the above figures 167, or 66.5 per cent, of the cases of placenta praevia have attained a maturity of 37 weeks. Berkeley found that 69 per cent of the cases had passed the thirty-sixth week of pregnancy, and Munro Kerr 59.5 per cent. Although a very large proportion of the cases of placenta praevia occur after the thirty-sixth week of pregnancy, it will be seen that in relation to the total number of deliveries at this period, the incidence is quite low. In spite of the fact that two-thirds of the cases of placenta praevia are found in the group 36 to 40 weeks these cases form only a small proportion of the deliveries at this period. In the case of the earlier months, the high proportion of placenta praevia is due to the small number of labours that occur at this time.

Malpresentations.

In the present series there are 14 cases of abnormal presentations, 10 cases of breech, and 4 cases of oblique lie. Three cases of breech presentation occurred in central, 6 in marginal, and 1 in lateral placenta praevia. Of the oblique lies, 3 were noticed in the lateral and 1 in the marginal variety.

Mortality.

During the last 4 years there were 199 cases of placenta praevia with 23 deaths, giving a maternal mortality of 11.5 per cent. The figures for 1933 are not included, as some of the records were not available. It would be interesting to compare our results with those of other observers. Munro Kerr records an average mortality rate of 8.4 per cent for the years 1926 to 1930 in the five largest maternity hospitals in Great Britain, namely, Edinburgh, Glasgow, Leeds, Liverpool, and Queen Charlotte's; Pankow a mortality rate of 7 per cent in 7,234 cases collected from the German clinics; Paucot and Reeb[10] a rate of 12.1 per cent in 591 patients in the New York Lying-in Hospital; Chakraverti gives the rates of 11, 13, and 4 per cent for Calcutta, Madras, and Bombay hospitals respectively.

Of the 23 deaths in this institution 11 occurred before delivery; in 6 of these death could be attributed solely to haemorrhage, while in the remaining 5 cases shock following podalic version was an important contributory factor. In the case of the 12 patients whose deaths occurred after delivery, 3 were due

history-of-obgyn.com

to puerperal sepsis; with regard to the remaining 9 shock following podalic version in 8 cases and delivery by the forceps in 1 case were responsible for the fatal issue. Thus in no less than 20 cases the cause of death was haemorrhage complicated by shock. According to Munro Kerr, shock, haemorrhage, and collapse accounted for 70 per cent and sepsis for 30 per cent of the deaths in the Glasgow Maternity Hospital.

The condition of the patient when first seen is an important factor in the assessment of the risk in the individual case. In an exsanguinated patient the prognosis is naturally less favourable than in one who has not lost much blood, whatever the variety of placenta praevia and the treatment adopted. In a country like Ceylon, where malaria and anchylostomiasis are endemic, the majority of patients are anaemic and ill-nourished, and in such patients even a small haemorrhage may lead to serious results. Moreover, many patients seek hospital treatment after they have had repeated haemorrhages.

It will be seen from the following figures that both the variety of placenta praevia and the method of treatment have a marked bearing on the prognosis not only on the life of the mother but also on the life of the child.

TABLE V.

MORTALITY FIGURES FOR THE DIFFERENT VARIETIES. 199 CASES.

Degree of praevia	Number of cases	Maternal deaths	Mortality rate	Stillbirths.
Central ...	56	16	28.6	39
Marginal ...	83	6	7.2	41
Lateral ...	60	1	1.7	27

According to the above table the maternal mortality of the central variety is 4 times that of the marginal, and 16 times that of the lateral variety. The percentage of stillbirths for the central, marginal, and lateral varieties is 69.6, 49.4, and 45 respectively.

Podalic version was the method of treatment adopted in 87 cases. The maternal mortality was 17.2 per cent and the foetal mortality 74 per cent. In 13 cases of breech presentation when a leg was brought down, the maternal mortality was 7.7 per cent and foetal mortality 69.2 per cent. The statistics of Queen Charlotte's Hospital for the years 1926 to 1930, as given by

history-of-obgyn.com

TABLE VI.

MORTALITY BY VARIOUS METHODS OF TREATMENT. 199 cases.

Method of treatment	Variety	Number of cases	Maternal deaths	Stillbirths	Undelivered and deaths within a few days of birth
Bipolar podalic version					
	Central	26	8	19	4
	Marginal	15	2	12	1
	Lateral	9	—	6	1
Internal podalic version					
	Central	16	4	12	1
	Marginal	10	—	10	—
	Lateral	6	—	2	—
Vaginal pack and podalic version					
	Central	3	1	3	—
External podalic version and leg brought down					
	Central	1	—	1	—
	Marginal	1	—	1	—
Artificial rupture of membranes					
	Central	1	—	—	—
	Marginal	24	—	7	—
	Lateral	13	—	8	—
Artificial rupture of membranes and Willett's forceps					
	Central	1	1	1	—
	Marginal	1	—	—	—
	Lateral	2	—	1	—
Vaginal pack only					
	Central	1	—	1	—
	Marginal	3	—	1	—
	Lateral	3	1	2	—
Caesarean section					
	Central	2	—	—	—
	Marginal	3	—	—	—
Breech presentation, leg brought down					
	Central	2	—	2	—
	Marginal	8	1	5	1
	Lateral	3	—	2	—
Delivery by the forceps					
	Marginal	2	1	1	—
Expectant treatment					
	Central	3	2	—	2
	Marginal	16	2	4	2
	Lateral	24	—	6	1

history-of-obgyn.com

Bourne and Williams,[11] showed a maternal mortality of 8.6 per cent and a foetal mortality of 88.9 per cent in those cases in which the method of treatment adopted was that of bringing down a leg with or without version. The popularity of the method of bringing down a leg is due to the fact that the bleeding is effectively controlled thereby. Caesarean section is the safest method of delivery for both the mother and the child. Although only 5 cases were treated by this method, there were no maternal nor foetal deaths. The membranes were ruptured artificially on 38 occasions. There were no maternal deaths and the foetal mortality was 39.4 per cent. In Queen Charlotte's Hospital there were no maternal deaths by this method and the foetal mortality was only 41 per cent. Expectant treatment was carried out in 43 cases, with 4 maternal deaths and 10 stillbirths.

The following tables show the mortality in relation to the age, the period of gestation, and the number of the pregnancy.

TABLE VII.

MORTALITY AT VARIOUS AGES. 199 CASES.

Ages in 5-year groups.	Variety.	Number of cases.	Maternal deaths.	Stillbirths
16 to 28 years	Central	4	—	5
	Marginal	5	—	4
	Lateral	3	—	—
21 to 25 years	Central	7	3	6
	Marginal	18	—	7
	Lateral	9	—	7
26 to 30 years	Central	20	6	7
	Marginal	33	4	15
	Lateral	21	—	7
31 to 35 years	Central	13	5	12
	Marginal	17	2	8
	Lateral	21	1	11
36 to 40 years	Central	11	1	9
	Marginal	9	—	7
	Lateral	4	—	1
41 to 45 years	Central	1	1	1
	Marginal	1	—	—
	Lateral	2	—	1

history-of-obgyn.com

TABLE VIII.

MORTALITY IN RELATION TO THE NUMBER OF PREGNANCIES. 199 CASES.

Number of the pregnancy.	Variety.	Number of cases.	Maternal deaths.	Stillbirths.
1	Central	4	1	4
	Marginal	9	1	2
	Lateral	4	—	2
2	Central	11	2	8
	Marginal	12	1	3
	Lateral	6	—	—
3	Central	6	1	2
	Marginal	13	1	7
	Lateral	5	—	4
4	Central	13	4	8
	Marginal	10	—	3
	Lateral	8	—	6
5	Central	3	2	3
	Marginal	11	1	2
	Lateral	10	—	5
6	Central	4	2	2
	Marginal	4	—	4
	Lateral	7	1	2
7	Central	3	—	2
	Marginal	12	1	8
	Lateral	10	—	3
8	Central	4	—	3
	Marginal	6	1	7
	Lateral	2	—	2
9	Central	—	—	1
	Marginal	2	—	3
	Lateral	4	—	2
10	Central	2	2	2
	Marginal	1	—	1
	Lateral	3	—	1
11 and Over	Central	6	2	4
	Marginal	2	—	1
	Lateral	1	—	—

history-of-obgyn.com

The foregoing figures show that the incidence and the mortality are highest during the age period 25 to 35 years. Although the average maternal mortality of the whole series is 11.5 per cent, the mortality in the age group 31 to 35 years is 15.7 per cent and in the age group 26 to 30 years is 13.5 per cent.

TABLE IX.

MORTALITY AT DIFFERENT PERIODS OF PREGNANCY. 199 CASES.

Maturity	Variety	Number of cases.	Maternal deaths.	Stillbirths
28-31 weeks	Central	10	—	6
	Marginal	11	—	6
	Lateral	8	—	5
32-36 weeks	Central	21	10	18
	Marginal	24	2	16
	Lateral	20	—	12
36-40 weeks	Central	25	6	15
	Marginal	48	4	19
	Lateral	32	1	10

Thus the maternal prognosis is most favourable during the earlier period, 28 to 31 weeks, but the survival-rate of children at this period is necessarily low.

REFERENCES.

1. Stander, H. J. *Williams Obstetrics*, pp. 1109, New York, 1936.
2. Johnstone, R. W. *Text Book of Midwifery*, p. 365, 1926.
3. Green Armytage and Dutta. *Textbook of Midwifery in the Tropics*, p. 274, Calcutta, 1936.
4. Berkeley, C. *Journ. Obstet. and Gynaecol. Brit. Emp.*, 1936, xliii, 393–434.
5. Chakraverti, J. *Ind. Med. Gaz.*, 1937, lxxii, 9–17.
6. Kerr, J. M. Monro, *National Mortality and Morbidity*, p. 124, Edinburgh, 1933.
7. Browne, F. J. *Antenatal and Postnatal Care*, p. 166, London, 1935.
8. De Lee, J. B. *Principles and Practice of Obstetrics*, p. 478, London, 1925.
10. Paucot and Reeb. *Gynaecol. and Obstetric*, 1933, xxvii, 97–145.
11. Bourne, A. W., and Williams, L. H. *Recent Advances in Obstetrics and Gynaecology*, p. 98, London, 1932.

history-of-obgyn.com