

## HYDROCEPHALUS

by

G. PALANICHAMY,\* M.D., (Obst. & Gynec.)

Hydrocephalus is one of the commonest congenital anomalies of the central nervous system. The quantity of the fluid contained in the hydrocephalic sac may be as much as 10 to 12 litres and the circumference of the head may measure as much as 30" in extreme cases Moir (1971). Hydrocephalus is an important cause of obstructed labour. The prognosis for the mother is not serious if the condition is recognised and suitably treated. However, if the condition is not recognised, uterus may rupture as a result of obstructed labour or by forcible attempts to deliver the after coming hydrocephalic head.

### Material and Methods

During the period from 1-10-1969 to 31-8-1974, there were 34 cases of hydrocephalus among 9441 deliveries managed in Tirunelveli Medical College Hospital, Tirunelveli, Tamil Nadu. An analysis of the obstetric aspects of these cases forms the basis of this report. The incidence of hydrocephalus was 0.36% i.e., 1 in 278 deliveries. The maternal age and parity are shown in Table I. Foetal presentations and maternal complications appear in Table II. The management of labour is shown in Table III. The foetal outcome is shown in Table IV.

### Discussion

The reported incidence of hydrocephalus generally varies from 0.05% to 0.1% (Mc. Intosh *et al*, 1954; Bulfin *et al*, 1956; Pitt, 1961; Eastman and Hellman, 1966; and Moir, 1971). Wong and Chau (1964) reported a lower incidence of 0.012%. Higher incidence were quoted by Feeney and Barry (0.25%) and Coffey and Jessop (0.35%). In a previous study

TABLE I  
Age and Parity

Total number of deliveries	9441
Total number of hydrocephalus	34
Incidence	0.36% (1 in 278)
AGE:	
20 years and less	5
21-29 years	21
30-39 years	6
40 years and over	2
PARITY:	
Para 0	8
Para I to IV	8
Para V and over	18

TABLE II  
Foetal Presentations and Maternal Complications

Total No. of cases	34
Associated with multiple anomalies	4
Vertex presentation	25
Breech presentation	8
Transverse lie	1
Hydramnios	2
Threatened rupture of uterus	3
Rupture of uterus	6
Maternal deaths	Nil

\* Assistant Professor, Department of Obst. & Gynec., Tirunelveli Medical College & Hospital, Tirunelveli (Tamil Nadu).

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TABLE III  
Management of Labour

Breech presentations:	
Perforation of after coming head	7*
Abdominal encephalocentesis	1
Cephalic presentations:	
Spontaneous delivery	5**
Cranial puncture	8
Craniotomy	5
Caesarean section	2***
Rupture uterus:	
Subtotal hysterectomy	5
Rent repair	1

\* 5 cases were admitted after delivery of breech upto the neck.

\*\* All babies weighed less than 1.5 kg.

\*\*\* Admitted with threatened rupture of uterus, and hydrocephalus was not recognised before operation.

TABLE IV  
Foetal Outcome

Macerated	2
Fresh stillbirths	31
Neonatal deaths	1
Discharged Alive	Nil
Birth weight:	
1.0 Kg. and less	1
1.1 to 2.0 Kg.	8
2.1 to 2.5 Kg.	9
2.6 to 3.5 Kg.	16
3.6 Kg. and over	Nil

at Govt. Erskine Hospital, Madurai, the author found an incidence of 0.356% i.e., 1 in 281 deliveries. (Palanichamy, 1973). This favourably agrees with the observations in this study.

Hydrocephaly affects the foetal polarity. Hence breech presentations are very common. Eastman and Hellman consider that breech presentations occur in about one third of the cases. According to Moir, breech presentations occur in 25% of cases. In Feeney and Barry's series, breech presentations occurred in

29% of cases. These observations favourably agree with our incidence of 23.5%. This represents more than six fold increase over the incidence of breech presentations in this institution. Moir states that shoulder presentations are rare with hydrocephalus. In our series, there was one case of transverse lie (2.9%). Transverse lie with hydrocephalic foetus has been reported by Feeney and Barry also.

Feeney and Barry found hydramnios in 8.6% of their cases. In this study, there were 2 cases (5.9%). In one of them, hydrocephaly was associated with meningocele.

Whatever is the presentation, serious dystocia is the usual consequence of gross cephalopelvic disproportion. Hydrocephalus is a well recognised cause for rupture of uterus. In our study, there were 6 cases of rupture of uterus (17.58%) compared to 2.96% in Feeney and Barry's series. All patients were admitted after rupture had occurred at home. In one case, the foetus was presenting transversely and in the remaining five cases, the presenting part was vertex. In this study, there was no maternal death. In Feeney and Barry's series, there were 9 maternal deaths (2.96%).

The object of treatment of this condition is withdrawal of excess of C.S.F. which distends the head and makes the descent of the foetus impossible. There are several easy methods of securing this object. For cephalic presentation, a large bore spinal needle may be inserted into a ventricle during labour. We generally prefer to use sharp pointed scissors instead of the craniotomy forceps. The C.S.F. may also be let out by transabdominal encephalocentesis in either cephalic presentation or for delivery of the after coming head. The after coming head may be entered with a catheter or metal can-



nula threaded through coexistent spine bifide. The occiput of foramen magnum can be punctured with sharp scissors. In some cases, a needle can be inserted through the submandibular tissue into the cranial cavity, after lifting the foetal torso. After the C.S.F. is drained, collapsed head generally descends through the pelvis. The descent may be assisted by a Volsellum or Willett's forceps applied to the scalp. In occasional cases, pitocin infusion may be required. In exceptional cases, hydrocephalic child may be born spontaneously when the distention of the head is slight or when the foetus is dead and macerated. Feeney and Barry noted spontaneous delivery in 40% of cases. In this series, spontaneous delivery occurred in 5 cases. In all, the babies weighed less than 1.5 Kg.

### Summary

1. The obstetric aspects of 34 cases of hydrocephalus have been reviewed.

2. The incidence was 1 in 278 deliveries.

3. Breech presentations occurred in nearly one fourth of cases.

4. There were six cases of spontaneous rupture of uterus (17.58%).

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