

ANENCEPHALUS

by

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It is generally believed that birth of an anencephalic monster may predict or accompany a disastrous obstetric career Cassady (1969). From the obstetrical view point, anencephaly is peculiar in that the foetal prognosis is hopeless and the management is solely governed by maternal interests Commerford (1965). Anencephaly is considered as an etiologic factor for hydramnios, face presentation, prolonged pregnancy and shoulder dystocia. The purpose of this paper is to establish the nature of obstetric complications in anencephalic pregnancies.

Material and Methods

During the period from 1-10-1969 to 31-8-1974, there were 9441 deliveries with birth of 18 anencephalic monsters. This gives an incidence of 1 in 525 deliveries (0.19%). The obstetric aspects of these cases form the basis of this report.

The maternal age varied from 17 years to 36 years, average being 27.2 years. There were 5 primigravidas (27.8%) and 3 grand multiparas. The mean parity was 3.8. Associated anomalies like spine bifida and dyschondroplasia were encountered in two cases. There were 12 female and 6 male babies. The presentation was 'vertex' in 50%, breech in 33.3%, face in 11.1% and transverse lie in 5.6%. Hydramnios was present in 8 cases (44.4%).

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The pregnancy was prolonged beyond 42 weeks in 2 cases (11.1%). Diagnosis was established antenatally in only 3 cases (16.7%). In them, pregnancy was terminated by amniotomy and pitocin infusion. During labour, internal version was done for one case of transverse lie. Shoulder girdle dystocia was encountered in one postmature anencephalic monster. In the remaining cases, labour was uneventful. There were 3 macerated babies, 13 fresh still births and two neonatal deaths. Two third of the babies weighed less than 2 kg. Only one baby weighed 4.0 kg. and this case was associated with postmaturity, face presentation and shoulder dystocia.

Discussion

The incidence of anencephaly varies from 0.05% to 0.08% (Pleydell 1957; Neel 1958; Pitt 1962; Jones 1967; and Cassady, 1969). Wong and Chua (1964) reported a lower incidence (0.021%). Higher incidences were quoted by Edwards (0.28%), Coffey and Jessop (0.51%) and Commerford (0.65%). In our hospital, the incidence was 0.19%. The mean age of mothers and the incidence of primigravidas in this series favourably agree with Jones (1967). A great preponderance of females has been observed in anencephalic fetuses. (Pleydell 1957; Commerford 1967; Cassady 1969). The ratio of female to male babies has been given as 7:1 to 3:1 Norman (1969) compared to 2:1 in this study.

Jones (1967) has rightly pointed out

that two opposing tendencies exist, one toward premature labour as a result of hydramnios and the other toward delayed onset of labour. The most acceptable explanation for the latter tendency is the low oestrogen production in anencephalus resulting in a refractory, progesterone dominated myometrium.

Very high incidence of hydramnios has been reported in anencephalic pregnancies. It was nearly 100% in Scot and Wilson's series, 90% in Commerford's series and 66.7% in Jone's series. In the present study, hydramnios was noted in 44.4% of cases. The increased incidence of hydramnios in cases of anencephaly is usually attributed to "failure of the foetus to swallow". This view has been challenged by Abramovich (1970). He clearly demonstrated that the anencephalic foetus swallows amniotic fluid as the normal infant does and he concluded that defects in swallowing or excretion of urine by the foetus will not explain the mechanism for hydramnios. Increased transudation of fluid from the exposed meninges into the amniotic cavity is also believed to be an aetiological factor. Hydramnios may also result from excessive urinary excretion resulting from stimulation of cerebro-spinal centres that have been deprived of their protective covering (Eastman and Hellman, 1966). Excessive foetal diuresis may also be as a result of absence of foetal antidiuretic hormone.

Anencephaly is generally held to be a cause of face presentation. In this study, the incidence of face presentation was 11.1%. This is 20 times greater than the expected incidence of face presentation in our institution.

Commerford (1965) pointed out that anencephaly in the absence of hydramnios is associated with postmaturity with

consequent 'rigid baby dystocia'. Higgins (1954) reported a case of anencephalus in which the duration of pregnancy was one year and twenty four days. The relationship between anencephaly and prolonged pregnancy has been extensively studied by Milic and Adamsons (1969). Jones has reported that pregnancy was prolonged beyond 42 weeks in 12 out of 67 anencephalic pregnancies. It is interesting to note that hydramnios was associated with prolonged pregnancy in 3 cases. In the present study, prolonged pregnancy was noted in two cases (11.1%). In one of these cases, the baby weighed 4.0 kg and the delivery was complicated by shoulder dystocia.

According to Jones, a diagnosis rate of 70% should be possible if X-Ray examination is performed routinely in all cases of hydramnios. The radiological appearance of an anencephalic monster is very typical. Ultrasonic studies are also useful in the diagnosis of foetal malformations like anencephaly, hydrocephalus, etc. Of late, estimation of alpha foeto proteins (A.F.P.) in the amniotic fluid has been found to be valuable in the early antenatal diagnosis of anencephaly and spina bifida. Brock and Sutcliffe, (1972).

The most frequent practical question posed by anencephalic pregnancy is whether to initiate labour as soon as the diagnosis is confirmed. According to Eastman and Hellman (1966), awaiting spontaneous labour is the most judicious plan. They point out that the uterus containing an anencephalic foetus is remarkably refractory to oxytocic administration. According to Jones, as soon as the diagnosis is established, the situation should be discussed with one or both prospective parents and labour induced as early as possible. He argues that a high live birth rate is undesirable in view of

the maternal psychological distress involved. He has also stated that the success rate of induction will be high if the membranes are ruptured at an early stage. Amnio-infusion of 20% sodium chloride has also been successfully used for termination of pregnancies complicated by anencephaly. Recently, Pederson *et al*, (1972) have reported cases of anencephalic pregnancies terminated with intra-amniotic PGF 2a.

Summary

The obstetrical complications of 18 anencephalic pregnancies have been reported with a brief review of literature. The diagnosis and management of this complication have also been discussed.

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