

FOETAL ALCOHOL SYNDROME

(A Study Report)

By

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SUMMARY

About 326 rural Indian mothers of lower socioeconomic status who are habituated to consume Indian rural country liquor regularly have been studied regarding their obstetric outcome with a view to detect the occurrence of Fatal Alcohol syndrome.

Introduction

About 5 years back detection of a grossly malformed fetus delivered by a healthy tribal woman who was admitted in an intoxicating condition due to intake of some country liquor was the origin of this study. Jones *et al* (1973, 1974) observed a group of effects in about 10-20% babies born to chronic alcoholic mothers and had named this as Fetal Alcohol Syndrome (FAS). FAS is characterised by four categories of abnormalities (Hanson *et al* 1976). They are, (i) typical craniofacial appearance with microcephali and midfacial dysmorphism, (ii) intrauterine growth retardation (I.U.G.R.) and continuing after birth, (iii) neurological-ranging from hypotonia to hyperactivity or inco-ordination to serious mental retardation, (iv) increased frequency of major to minor congenital abnormalities including cardiac defects. Criteria for diagnosis of F.A.S. requiring signs in each of the first three groups have been defined by Rosett *et al* (1980).

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Material and Methods

The obstetric performance and perinatal outcome of 326 mothers of different origins and castes like Harijans, Santhals and allied ones who daily consume about one bottle (750 ml.) of cheap country liquor have been studied at random for last 5 years. Although they were from poor social status they were healthy, hard working and free from any disease. Cases having history or intake of herbal or indigenous preparation during pregnancy were excluded from this series. The entire study has been made in remote rural areas of West Bengal, India.

Results and Analysis

Although all cases were motivated for hospital delivery about 176 mothers had gone for home delivery by traditional birth attendants. Amongst hospital delivery group 122 had normal delivery with or without episiotomy; forceps delivery and L.U.C.S. were needed for 16 and 9 cases respectively; destructive operation was needed for 3 cases. Here incidentally 46% cases were teenaged primi and

TABLE I
Defects Detected at Birth

Abnormalities		Congenital defects	
1. I.U.G.R.	48 (14.7%)	(A) Incompatible to life:	
2. Unexplained Stillbirth	16 (4.9%)	Cardiac defects	5
3. Congenital defect	43 (13.1%)	Anencephali	4
4. Hypotonia	28 (8.5%)	Hydrocephalus	3
5. Hyperactivity	9 (2.7%)	Gross Neural Tube defect	6
6. Microcephali	12 (3.6%)	Renal agenesis	4
7. Midfacial dysmorphism	8 (2.4%)	(B) Compatible to life:	
Total	164 (50.3%)	Ectopia vesicae	2
No abnormality	162 (49.6%)	Anorectal atresia	4
		Imperforate anus	3
		Syndactyli	6
		Polydactyli	5
		Situs inversus	1
Total	326	Total	43

TABLE II
Follow up for One Year

Month	3rd	6th	9th	12th
1. Persistent low birth weight	20 (13.6%)	20 (13.6%)	18 (12.2%)	17 (11.5%)
2. Delayed milestone	24 (16.3%)	24 (16.3%)	24 (16.3%)	24 (16.3%)
3. Persistent hypotonia	14 (9.5%)	14 (9.5%)	12 (8.1%)	12 (8.1%)
4. Hyporeflexia	11 (7.4%)	11 (7.1%)	9 (6.1%)	9 (6.1%)
5. Abnormal hyperactivity	6 (4.0%)	8 (5.3%)	5 (3.4%)	5 (3.4%)
6. Mental retardation	—	—	14 (9.5%)	13 (8.8%)
7. Apparently normal	72 (48.9%)	70 (37.6%)	65 (44.2%)	67 (45.5%)
Total	147	147	147	147

** Only hospital delivery group of cases have been included to avoid the effects due to birth trauma in home delivery group.

12% were grande multipara. Thorough perinatal check up with followup for one year was done for each case. Autopsy was performed for all stillbirths.

Discussion

Alcoholic percentage of Indian rural country liquor taken by the mothers of this study varies from 20-70% if not more. Halliday *et al* (1982) suggested that daily consumption of 80 g. of alcohol

can cause FAS. Beattie *et al* (1983) observed the same with lower daily critical level of about 50 g. of absolute alcohol. Geographic variation in incidence of FAS ranges from 1 per 50 births (Rosett *et al* 1981) to only 2 cases in 25,000 births (Wright *et al* 1983a) and significant under-detection from lack of familiarity with the syndrome is possibly still wide spread. In this series nearly 50.3% newborns had some form of defect ranging from still-birth to growth retardation etc. During

the period of 1981 to 1983 Beattie *et al* (1983) could trace such defects in about 60% cases through the paediatrician in and around Glasgow. As obstetricians are even less familiar than are the paediatricians with the facial characteristics, it is likely that there is a significant under reporting of F.A.S., as a cause of stillbirths attributed to 'unexplained' intrauterine growth retardation. Kaminiski *et al* (1976) reported higher stillbirths and I.U.G.R. than the present series (4.9% and 14.7% respectively) in mothers consuming more than 30 g of alcohol. Streissguth *et al* (1981) reported reduced birth weight even following occasional 'bringe' drinking. A synergism between heavy drinking and smoking has been established by Wright *et al* (1983b) and Beattie *et al* (1983). The same has been observed to some extent in the present series. Wright *et al* (1983 a, b) and Plant (1984) had reviewed in detail the safe amount and percentage of alcohol that check the risk of congenital deformity, retarded growth and spontaneous abortion. This assessment was not possible but its definite effect even in the long term in the form of retarded growth, delayed milestone development, persistent hypotonia, hyperactivity or hyporeflexia and mental retardation could be established in the present series.

Conclusion

The sole effect or Indian rural country liquor on newborns is manifested as F.A.S. The object is to increase the awareness regarding the condition so that appropriate necessary steps can be taken as per geographical distribution to reduce the so called 'unexplained' perinatal mortality and morbidity.

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