



TO STUDY ENCEPHALOCELE IN A TRIBAL SET UP: CASE SERIES

Surgery

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KEYWORDS

Introduction:

Encephaloceles is commonest neural tube defect. The neural tube is a narrow channel in the developing fetus that allows the brain & spinal cord to develop. The neural tube folds & closes early during pregnancy (third or fourth week) to complete the formation of brain & spinal cord. A neural tube defect occurs when the neural tube does not close completely, which can occur anywhere along the head, neck, spine. Encephalocele is protrusion of cranial contents beyond the normal confines of the skull through defect in the calvarium. Protruding tissue may be located on any part of head, but most often affects the back of skull (occipital area).

It occurs rarely, at a rate of one per 5000 live births worldwide. The exact cause of encephaloceles is unknown, but most likely the disorder results from the combination of several factors(multifactorial). The incidence of encephalocele is higher in female children, but in our set up incidence of encephalocele is higher in male children. We had studied 26 cases from 1997-2002. On an average 4 cases studied per year. We had conducted study in North Maharashtra in the districts Dhule & Nandurbar tribal area. Predominant population over here is Bhil, Pawara, Mavchi & Kokani tribes. Many programmes for the welfare & development of tribal people were implemented here. Despite of all such efforts & massive input, the results have fallen short of expectations as only nominal benefits have reached to the tribals. A fundamental weakness lies in the fact that the people for whom development is intended are not involved.

Aims:

To study epidemiology of encephalocele in cases presented to us.

Material & Methods:

Study conducted in our ACPM Medical college from year 1997-2002.

Results:

Incidence	Cases	
Males	22	All operated
Females	4	1 got operated 3 refused surgery
Age at presentation		cases
Within 4-5 days after birth		1
Within 1 month		15
Within 6 months		5
Within 1 year		5

Radiological Investigations	cases
USG	26
CT scan	3
Size	Cases
Less than 1 cm	2
1-3 cm	2
3-5 cm	12
5-10 cm	7
Greater than 10 cm	3
Content	Cases
CSF	7
CSF+Brain matter	19
ANC Diagnosed	1
ANC Undiagnosed	25
ANC Registered	0
ANC under regular treatment	0
Operated	23
Non Operated	3 (All are females)
Post op follow up	
Followed up	4
Not followed	22

Discussion:

Encephalocele is one end of spectrum of neural tube defect. It is spherical, fluid filled structure beyond calvarian confines. Earliest can be diagnosed at 13 weeks, by ultrasonography according to literature. Pathophysiology of encephalocele is failure of surface ectoderm from neuroectoderm early in embryonic development. It is mesodermal defect in calvaria & duramater resulting in herniation of cerebrospinal fluid, brain tissue & meninges through defect. Common site is occipital area in 75% of cases. Only 7 had fluid associated malformation with encephalocele. 10 had hydrocephalus, 1 had Arnold-chiari syndrome, others such as microcephaly were 2.

The incidence of encephalocele is more in our set up because of low socioeconomic status, poor health, lack of education, limited coverage of tribal welfare & development programmes and hence folic acid deficiency. Also the mothers were not ANC registered here. The incidence of it among male child is higher because females were not brought to hospital. Age of presentation is late because they came from

far places & health awareness is lacking among them. Out of 3 followed cases only one is going to school.

Conclusion:

No intra or post operative death. But follow up was very poor. Out of 26 patients only 4 had regular follow up. One patient required V-P shunt. One patient is attending regular school. He has no signs of mental retardation. Two had delayed milestones. Other patient had lost to follow-up.

Overall incidence of encephalocele is higher in our area because of low socio-economic status, poor education, lack of health, limited coverage of tribal welfare & development programmes & probably due to folic acid deficiency. Male predilection is higher than female because females did not present to us.

After 2002 there is decreased incidence of encephalocele probably because of

- 1) ANC follow ups &
- 2) folic acid supplements.
- 3) Antenatal USG hence diagnosis of encephalocele & MTP.