

Encephalocele: Our Experience

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Abstract

Introduction:Encephalocele is one of the commonest neural tube defects, with the frequency of approximately 1-4 : 1000 births. We conducted a study of epidemiology of encephalocele, at our institution in rural set-up , to know the role of antenatal checkups (folic acid supplementation and prenatal sonography) of mother, in decreasing the incidence of encephalocele in rural and tribal population.

Aims & Objectives:To study the role of antenatal checkups of mother, on the incidence of encephalocele in rural and tribal population.

Materials & Methods:The study has been conducted at A.C.P.M Medical College, Dhule for a period of five years from 1998 to 2003. The study consists of twenty three patients of encephalocele. Age of presentation was observed. All the patients underwent routine investigations and sonography. They all were surgically managed. Progress of the patients was followed up. All the data was collected, tabulated and analysed.

Result:None of the patients' mother has received preconceptional counselling and antenatal care. Therefore none of them received folic acid supplementation, during pregnancy or prior to it. Consequently, sonographic detection of encephalocele was missed. Hence, we would like to postulate, that lack of antenatal checkups, has resulted in increased incidence of encephalocele in tribal population.

Conclusion:Improvement in antenatal checkups (folic acid supplementation and prenatal sonography) of mother has resulted in decreasing incidence of encephalocele in rural and tribal population.

Keywords:Encephalocele; Antenatal;Folic acid supplementation;Prenatal sonography.

Introduction

Encephalocele is one of the commonest neural tube defects, with the frequency of approximately 1-4: 1000 births. Encephalocele may be of congenital, spontaneous, and traumatic origin.[1,2,3,4,5] It is seen more commonly in females. We conducted a study of epidemiology of encephalocele at our institution in rural set-up where most of the patients are from tribal region. This case series included neonates with encephalocele for 5 years. Social factors are responsible for the increase in number of male patients presenting at our hospital for treatment.

Material & Methods

The study protocol was approved by ethics committee and informed consent of guardians was taken. We did a study of the epidemiology of encephalocele for five years from 1998 to 2003.

23 patients were treated for encephalocele during this period. Age of presentation was observed.

At birth – two patients

Within a month – 15 patients

After one month – six patients

No patient was diagnosed with encephalocele antenatally. All the patients underwent routine investigations and sonography. They all were surgically managed. Progress of the patients was followed up. All the data was collected, tabulated and analysed.

Table 1: Distribution of Incidence of Encephalocele

Year	No. of cases presented at our OPD	%
1998-1999	17	74
2000-2001	5	22
2002-2003	1	4

Table 2: Time of presentation/detection

Age of presentation	No. of cases presented at our OPD	%
ANC	0	0
At birth	2	9
Within a month	15	65
After one month	6	26

Table 3: Sex distribution

Sex	No. of patients	%
Male	23	100
Female	0	0

Table 4: Antenatal Checkup done

ANC	No. of patients	%
Done	0	0
Not done	23	100

Obervation

Discussion

Encephalocele is one end of spectrum of open NTD. It is a spherical fluid filled structure beyond calvarian confines. Earliest can be diagnosed at 13 weeks, by USG, according to literature, pathophysiology of encephalocele is failure of surface ectoderm to separate from neuroectoderm early in embryonic development. It is mesodermal defect in calvaria and duramater resulting in herniation of CSF, brain tissue and meninges through defect. Common site is occipital area in 75% of cases.

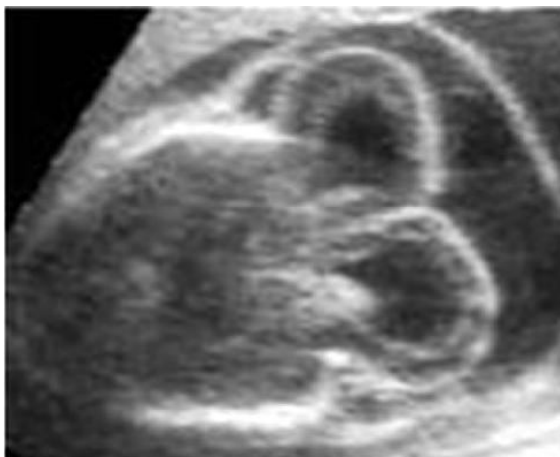
The incidence of neural tube defects have been reduced by consumption of folate daily, beginning of at least one month before conception.[6] Increase folate intake is required in previous gestation with a neural tube defect. So preconceptional intervention and anomaly scan at second trimester play major role in prevention of this malformation.

None of the patients' mother has received preconceptional counselling and antenatal care. Therefore none of them received folic acid supplementation during pregnancy or prior to it. Consequently, sonographic detection of encephalocele was missed.

Hence, we would like to postulate that lack of antenatal checkup (folic acid supplementation and prenatal sonography) resulted in increased incidence of encephalocele in tribal population. It seems that social factors might be responsible for decrease in number of female patients with encephalocele presented for treatment in our



Encephalocele



Cranial meningocele



institution.

Conclusion

Improvement in antenatal checkups (folic acid supplementation and prenatal sonography) of mother has resulted in decreasing incidence of encephalocele in rural and tribal population.

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