VOLUME - 11, ISSUE - 01, JANUARY - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Pediatrics

# CRYPTOCOCCAL MENINGITIS IN AN INFANT WITH ABSENT CAVUM SEPTUM PELLUCIDUM

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**ABSTRACT**

I describe a male infant 1.5 month old with absent cavum septum pellucidum who had cryptoccal meningitis.Infant was born preterm (33weeks) by lscs , was appropriate for gestational age(AGA), no NICU stay .Infant presented with short history of decreased feeding, excessive crying, and letharginess. Examination revealed a sick looking infant with bulging anterior fontanella(2*2cms). Other positive findings in the examination were microcephaly, weight,length, head circumference were less than 3rd centile as per Fenton chart. Lumbar puncture confirmed meningitis and cryptococcal infection (cryptococcal antigen and Indian ink stain-positive) was seen in cerebrospinal fluid. CEMRI brain showed absent Cavum Septum Pellucidum. Infant responded well to lipid complex Amphotericin B.

**KEYWORDS :** Cavum Septum Pellucidum, Cryptococcal Meningitis, Infant

## INTRODUCTION

An absent cavum septum pellucidum may rarely be an isolated finding or more commonly be seen in association with a variety of conditions[1]. It is partly or entirely absent in 2 to 3 children per 1 lakh of population[1]. An absent cavum septum pellucidum may be developmental or acquired secondary to another pathological process[2]. Cavum septum pellucidum is always visualised between 18 and 37 weeks and within a biparietal diameter of 44 to 88mm[3]. Failure to detect the cavum septum pellucidum on the ultrasound exam prior to 18 weeks or later than 37 weeks is considered normal finding[2]. It can be isolated or associated with one of the following: corpus callosum agenesis, holoprosencephaly(alobar, semilobar,lobar,middle interhemispheric variant), AVID (asymmetrical ventriculomegaly interhemispheric cyst Dysgenesis of corpus callosum triad) syndrome, septo optic dysplasia, schizencephaly[1].

Acquired conditions which can be associated and result in absent cavum septum pellucidum include congenital hydrocephalus,hydranencephaly, and porencephaly[2].

Radiographic features seen include nonvisualisation of the cavum septum pellucidum with direct communication of the frontal horns. Following characteristics may also be seen boxing/squaring off of the frontal horns, inferior pointing frontal horns and abnormally inferiorly positioned fornix (coronal views)[1].

Cryptococcus neoformans (C. neoformans) is the most common cause of fungal meningitis worldwide[4].Cryptococcal meningitis is an opportunistic infection commonly seen in immunocompromised hosts, especially HIV-infected adults[5]. It also occurs in apparently immunocompetent individuals[4]. Cryptococcal meningitis is uncommon in children, particularly in infants. Infection is acquired predominantly through airborne transmission to the respiratory tract and cell-mediated immunity is important in host defense against this organism[4]. Cryptococcal infection should be considered in children of all ages with meningitis where there is possible immunodeficiency or failure to respond to initial treatment with antibiotics[5].

## PATIENT AND OBSERVATION

A 1.5 month old infant born preterm (33weeks) by lscs, AGA, no history of NICU stay presented with short duration history of decreased feeding, letharginess, and excessive crying for 1 week. Infant was breast fed and had no significant neonatal history. Examination showed a sick looking infant with bulging AF (2*2cms),microcephaly, HC , length and weight all three parameters were less than 3rd centile as per Fenton chart. Infant had Weak and shrill Cry and Poor Suck. Rest of the examination was unremarkable. No facial Dysmorphism was present.

Infant was investigated and Lumbar puncture confirmed meningitis and cryptococcal infection (cryptococcal antigen and Indian ink stain-positive) was seen in cerebrospinal fluid. USG cranium done showed: mild hydrocephalus communicating with absence of septum pellucidum with fusion of frontal horns of lateral ventricles with thinned out corpus callosum, rest of cerebral cortex and posterior fossa being normal.

CEMRI Brain done showed absent cavum septum pellucidum as only finding(FIG .1,2,3).HIV status of the infant was also negative. No findings of ROP were seen on opthalmological evaluation. Immunodeficiency work up was done which was negative.

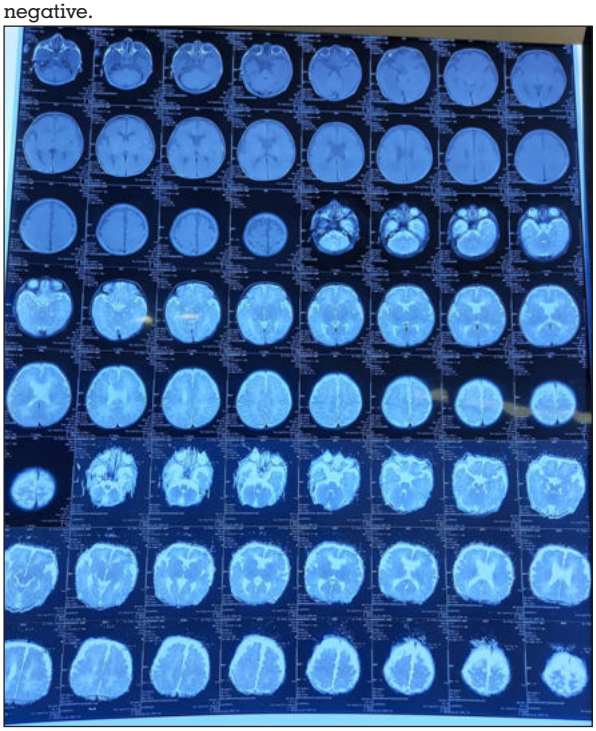

**FIG 1, 2 &3** Ce MRI Brain Of The Infant

Infant was started on intravenous lipid complex amphotericin B@5mg/kg/day in once daily dose to which the infant responded well(FIG.4). Treatment was continued for 4weeks and infant was discharged successfully on breast feeds.

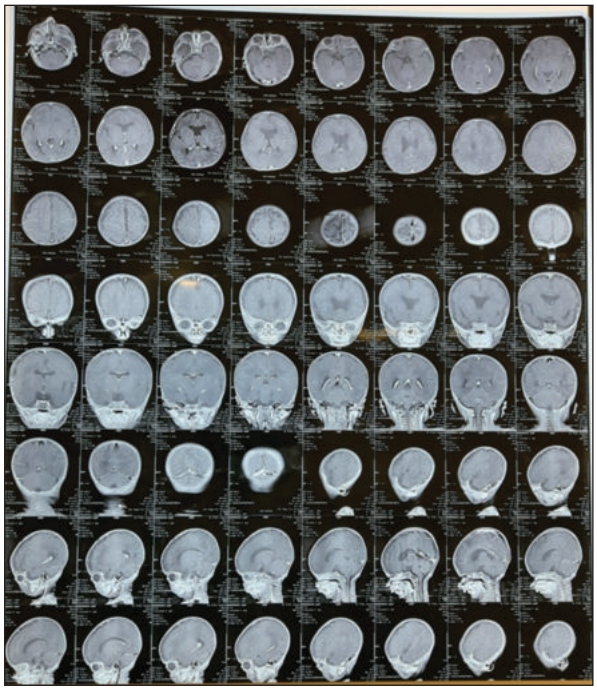

**Fig 2.**

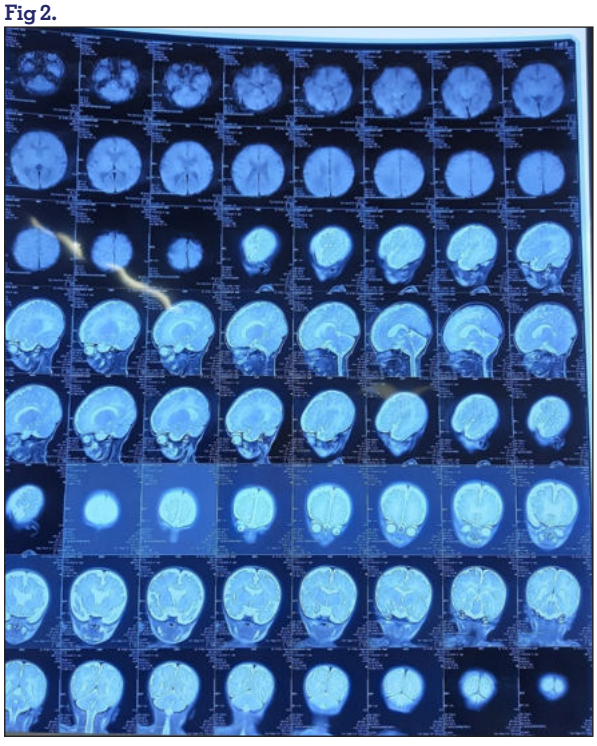

**Fig 3.**

**Fig 4.** Infant Receiving Lipid Complex Amphotericin B

## DISCUSSION

An absent cavum septum pellucidum may rarely be an isolated finding or more commonly be seen in association with a variety of conditions[1]. It is partly or entirely absent in 2 to 3 children per 1 lakh of population[1]. An absent cavum septum pellucidum may be developmental or acquired secondary to another pathological process[2]. Cryptococcus neoformans (C. neoformans) is the most common cause of fungal meningitis worldwide[4]. It also occurs in apparently immunocompetent individuals. Rarely has it been reported in children, and it is almost nonexistent in infants, however it has been seen in preterm born infants[5].

In our 1.5 month old infant born preterm, contrast enhanced MRI Brain findings were suggestive of absent cavum septum pellucidum. Infant also had features of meningitis and Lumbar puncture confirmed meningitis and cryptococcal infection (cryptococcal antigen and Indian ink stain-positive) was seen in cerebrospinal fluid. Infant responded well to intravenous lipid complex Amphotericin B.

This is a rare case report that describes a preterm born infant with absent cavum septum pellucidum presenting with Cryptococcal meningitis.

## CONCLUSION

A rare case report describing a prematurely born 1.5 month old infant with absent cavum septum pellucidum with cryptoccal meningitis and infant responding well to Intravenous lipid complex Amphotericin B being given for 4 weeks. Infant was discharged successfully after 4weeks on breast feeds.

### Patient/Guardian Consent For Publication:

parental/guardian consent obtained.

### Authors Contributions:

All authors contributed in realisation of this case study .All authors have read and agreed to the final manuscript.

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