



## RESEARCH ARTICLE

### MANAGEMENT AND OUTCOME OF INTRACRANIAL ABSCESSSES IN MEDICAL COLLEGE HOSPITAL BIKANER- A 12 YEAR STUDY

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#### ABSTRACT

Cerebral abscess is a difficult infective condition to treat. The diagnosis and management of intracranial abscess has been facilitated by imaging techniques (CT and MRI) resulting in a significant reduction in mortality. Despite these advances in technology, intracranial abscess remains a common neurosurgical problem in India. Intracranial abscesses include parenchymal abscess, subdural empyema and epidural abscess.

#### INTRODUCTION

Cerebral abscesses have proven to be one of the most satisfactory disease entities that the neurosurgeons encounter. CT and MRI have made more accurate identification of intracranial abscesses and have thus contributed immeasurably to the reduction in mortality compared to the pre CT era (Alderson, 1981). The incidence is higher in underdeveloped countries where living conditions remain poor (Bhatia, 1973). In India intracranial abscess comprises 8% of all intracranial space occupying lesions.

#### MATERIALS AND METHODS

335 cases of intracranial abscess were included in the study irrespective of age, sex and cause of abscess in the past 12 years. CT scan head plain and contrast, MRI brain plain and contrast and other routine investigations were done. Patients were treated by aspiration, primary excision and secondary excision. These patients were followed up regularly for 1 year.

#### RESULTS

**Age and sex incidence:** 70% cases were male and 30% were female with a ratio of 2.3:1. 62% of the cases were in first two decades of life. The youngest patient was 10 days old and the oldest was 69 years of age.

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**Symptomatology:** Symptoms of raised ICP were present in 94% of cases, altered sensorium in 30%, convulsions in 82% and ear discharge in 32% of cases.

**Signs:** 32% of cases were in grade 1 level of consciousness, 50% were in grade II, 12% in grade III and 6% in grade IV level of consciousness.

#### VII cranial nerve was involved in 4 cases

**Location of abscess:** Temporal lobe (34%) was the most common site followed by frontal (18%) and cerebellar (16%). Right and left involvement was seen in 60% and 32% of cases respectively while 8% cases were bilateral

**Etiology:** 48% cases were otogenic.

**CT scan and MRI scan findings:** 70% cases had uniloculated, 22% cases had multi loculated abscess and 8% had multiple abscesses.

**Type of treatment:** Aspiration was done followed by secondary excision in 78% of cases. Primary excision was done in 22% of cases and VP shunt surgery was performed in 3% of cases.

**Result of treatment:** 92% of cases improved or were cured and 8% cases expired.

**Post operative complications:** 8% cases had early postoperative complication like CSF leak from ear, meningitis, wound infection and haematoma.

## DISCUSSION

In present study 62% cases were seen in first two decades of life, (34% cases in 1st decade and 28% cases in 2<sup>nd</sup> decade of life). Youngest patient was 10 days old and the oldest was 69 years. Brewer et al, 1975 and Dharker et al, 1978 also observed that peak incidence was in the first two decades of life (4,5). The ratio of supra tentorial to infra tentorial abscess was 5.25:1. This ratio ranged from 5:1 to 11:1 ((6,7,8). The most common sites in the present study were temporal lobe (34%), frontal lobe (18%) and cerebellum (16%). In temporal lobe abscesses the source of infection was otogenic (88.23%). Dharker et al also reported temporal lobe as the most common site of abscess.(5) Burr hole and fontanelle aspiration was done in 78% cases followed by secondary excision. Primary excision was done in 22% of cases. In primary excision, abscess was excised with its wall. 8% cases had early post operative complication whereas no one had late post operative complication. Most dreaded complications resulted from contamination of brain tissue or its coverings, meningitis and ventriculitis following surgery (3). We present our experience of last 12 years. The incidence is high due to low hygiene, illiteracy and poor socioeconomic status of patients. CT and MRI scan of brain help in early diagnosis and better management. We mostly do the secondary excision of abscesses as patients present late and with low general condition. Mortality mostly depends upon several factors like level of consciousness, etiology, multiplicity, site and bacteriology. In spite of all these factors we have low mortality rate (8%).

## Conclusion

Most common affected age group was below 20 years (62%). Commonest source of infection was CSOM (48%). Almost all cases of abscess presented in early and late capsular stage and most of them were treated by aspiration and secondary excision. The overall mortality was about 8%.

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