

Clinical Manifestation of Brain Abscess

FAROOQ AZAM, MIAN IFTIKHAR-UL-HAQ, MUSHTAQ

Ali Noman, Mewat Shah, Riaz ur Rehman

Department of Neurosurgery, Hayatabad Medical Complex Hospital, Peshawar Khyber Pakhtoonkhawa

ABSTRACT

Objective: To determine the clinical presentations of brain abscess.

Study design: Descriptive study.

Place and Duration of Study: Hayatabad Medical Complex Hospital Peshawar Khyber Pakhtoonkhawa from 1st February 2001 to 31st July 2011.

Material and Methods: A total 31 patients with symptomatic brain abscess confirmed on CT scan were included in this study. Both gender (male and female) and patients in the age range of 01 – 70 years were included in this study. The patients' demographic details and clinical manifestation were entered into a semi structured proforma. Data was analyzed through statistical program SPSS version 11.

Results: Out of 31 patients, there were 17 (54.8%) males and 14 (45.2%) females. The age of patients ranged from 01 to 70 years. In this study the overall mean age was 32.38 years. Majority of patients 13 (41.9%) were in the age range of 31 – 40 years. Most common clinical presentation of patient were headache in 29 (93.5%) vomiting 22 (71%) and fever 13 (42%) patients.

Conclusions: Brain abscess commonly occurred in the third decade of life. Headache vomiting and fever were the most common clinical presentation of brain abscess.

Key words: Brain abscess.

INTRODUCTION

A brain abscess is a pus – filled swelling in the brain caused by an infection. It is rare and life threatening. It happens when bacteria or fungi enter the brain tissue, usually after they have infected another part of the body. Brain abscesses are extremely rare in the UK.¹⁻³ It is estimated that only two to three people in every million will develop a brain abscess in any given year. Brain abscesses can occur at any age, but most cases are reported in people aged 40 or younger. They are more common in men than women.⁴⁻⁶

The most frequent presenting symptoms are headache, drowsiness, confusion, seizures, hemiparesis or speech difficulties together with fever with a rapidly progressive course.^{7,8} The symptoms and findings depend largely on the specific location of the abscess in the brain. An abscess in the cerebellum, for instance, may cause additional complaints as a result of

brain stem compression and hydrocephalus. Neurological examination may reveal a stiff neck in occasional cases (erroneously suggesting meningitis). The famous triad of fever, headache and focal neurologic findings are highly suggestive of brain abscess.^{9,10}

A brain abscess is a medical emergency and requires prompt treatment with antibiotics and surgery. The surgeon will usually open the skull and drain the pus from the abscess or remove the abscess entirely.¹¹⁻¹³

MATERIAL AND METHODS

This was a descriptive study conducted at Hayatabad Medical Complex Hospital Peshawar Khyber Pakhtoonkhawa, from 1st February 2001 to 31st July 2011. Total 31 patients with symptomatic brain abscess, confirmed on CT scan were included in this study. Both gender (male and female) and patients in the age range

of 01 – 70 years were included in this study. The patients’ demographic details and clinical manifestation were entered into a semi structured proforma.

Data was analyzed through statistical program SPSS version 11. All the qualitative variables like gender, headache, vomiting, fever and fits were analyzed for percentages and frequencies. Mean ± standard deviation was calculated for quantitative variable like age. The results were presented through tables.

RESULTS

Out of 31 patients, there were 17 (54.8%) males and 14 (45.2%) females. The age of patients ranged from 01 to 70 years. In this study the mean age was 32.38 years. Majority of patients 13 (41.9%) were in the age range of 31 – 40 years (Table 1).

Most common clinical presentation of patient were headache 23 (74.2%) vomiting 22 (71%) fever 13 (42%) patients (Table 2).

Table 2: Clinical Presentation.

S. No.	Clinical Presentation	Number of Patients	Percentages (%)
1.	Headache	29	93.5
2.	Vomiting	22	71
3.	Fever	13	42
4.	Fits	7	22.6
5.	Focal neurological deficit	3	9.7

DISCUSSION

Brain abscess (or cerebral abscess) is an abscess caused by inflammation and collection of infected material, coming from **local** (ear infection, dental abscess, infection of paranasal sinuses, infection of the mastoid air cells of the temporal bone, epidural abscess) or **remote** (lung, heart, kidney etc.) infectious sources, causing metastasis within the brain tissue. The infection may also be introduced through a skull fracture following a head trauma or surgical procedures. Brain abscess is usually associated with congenital heart disease in young children. It may occur at any age but is most frequent in the third decade of life.^{1,3,6,7,12}

Because of advances in diagnostic and surgical techniques, the outlook for people with brain abscesses has improved dramatically. Nowadays, deaths only

Table 1: Age Distribution.

S. No.	Age Group	Number of Patients	Percentages %
1.	1 – 20	5	16.1
2.	21 – 30	9	29
3.	31 – 40	13	41.9
4.	41 – 50	3	9.7
5.	51 – 70	1	3.2

occur in an estimated 10% of cases, and most people make a full recovery. However, without treatment, a brain abscess is nearly always fatal.^{4,8,10,13}

In our study age range was from 01 to 70 years. The mean age of presentation was 32.38 years. Majority of patients 41.9% were presented in age group of 31 to 40 years. A study was conducted by Manzer N showed the same result.¹⁴ Obana WG conducted the study in which the common clinical presentation age was third and forth decades of life.¹⁵

In this study majority of male 17 (54.8%) presented with clinical features of brain abscess compared to the females 14(45.2%) with a male predominance. A study was conducted by Manzer N showed the same result.¹⁴ Seydoux C also showed male predominance.¹⁶

Headache in 29 (93.5%) vomiting 22 (71%) fever 13 (42%) patients were the most common clinical presentation in our study. Other clinical features were vomiting in 22 (71%) cases, fever in 13 (41.9%) cases, fits in 7 (22.6%) cases and focal neurological deficit in 3 (9.7%) cases. Most of the patients having more then one clinical features. Darowiche RO conducted the study in which the common clinical presentation was headach.¹⁷ Manzer N also showed a triade of headach, vomiting and fever in 62.7% of patients.¹⁴

CONCLUSIONS

Brain abscess commonly occurred in the third decade of life. Headache vomiting and fever were the most common clinical presentation of brain abscess.

Address for Correspondence:

Dr. Mian Iftikhar-ul-Haq

Mian house # E-67, Street # 4, Nasir Bagh Road

Canal Town, University Road, Peshawar

Email: driftikharazeemi@hotmail.com

Cell No: +92-91-3219032948

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