Treatment Of Intracranial Tuberculomas ?

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Fifteen patients with intracranial tuberculomas were treated in this centre. Diagnosis was based on high ESR, CT Scan and any other tuberculous lesion in the body. All the patients were given antituberculous therapy and those who improved were continued on drugs. Surgery was done in cases where there was failure to improve or diagnosis was in doubt and those who had clinical features of raised intracranial pressure. Repeated CT Scans are essential to know the progress of the disease. Sixty percent patients improved on drugs, while 40% underwent surgery. Mortality of 7 % was seen which is quite low due to modern diagnostic facilities and drug availability. Treatment of intracranial tuberculomas is essentially medical and surgery is indicated when medical treatment fails.

Key Words : Intracranial tuberculomas.

Tuberculomas are chronic granulomatous lesions which originate as foci of tuberculous infection within the brain by haematogenous spread from other parts of the body[1] . These lesions are solitary or multiple, located anywhere in the brain and vary in size. CT scan has made the diagnosis of very small lesions possible. Treatment is medical and surgery has certain indications. This study presents our experience of treating intracranial tuberculomas admitted between January 1992 to December 1992 with a follow up period of upto two years.

Patients and methods

Fifteen patients (8 males, 7 females) were included in this study. The age range was from one year to 36 years. They presented with headache, fever, vomiting, fits, hemiparesis and cranial nerve involvement (Table-I).

Table 1. Clinical Features

Symptoms	n=	%age
Headache	5	33%
Fever	3	20%
Vomiting	3	20%
Fits	6	40%
Visual Disturbance	3	20%
Speech	2	14%
Hemiplegia	4	27%
Altered Consciousness	3	20%
Cranial Nerve Involvement	2	14%
Ataxia	1	8%

One patient had associated kyphosis and psoas abscess for which he was operated six months prior to admission and 2 had pulmonary tuberculosis. Diagnosis was made on CT Scan which showed an area of low attenuation with irregular enhancing margin on contrast study, gross peripheral oedema with solitary lesions in 9 (60 %) and multiple lesions in 6(40%) patients. Twelve (80 %) patients had supratentorial lesions, 2(13.3 %) posterior fossa lesions and one (7 %) had lesions in both the compartments. Three (20 %) patients had associated hydrocephalus.

All the patients who had slightest suspicion of a lesion being a tuberculoma were given antituberculous drugs. Twelve (80 %) were on three drugs while 3 (20 %) were on four drugs. Cortisone was given to 3 (20 %) and 4 (26.6 %) were on Carbamezipine and Phenytoin[2] . Nine (60%) patients improved and were continued on drug treatment. A close observation was made by admitting these patients and any deterioration in the clinical features or failure to improve on drug treatment was an indication for a repeat CT Scan. Any increase in size of the lesion or oedema was an indication for surgery. In 6 (40 %) cases surgery was done out of which 4 (26..6%) had total excision, one has a tuberculous abscess[3] , two had a dural attachment and one has a tuberculous osteomyelitis. This patient had undergone removal of an intracranial mass elsewhere followed by wound infection and abscess, which was later confirmed to be tuberculous on biopsy. One patient had an open biopsy and 1 stereotactic biopsy.

Results

Out of 15 cases treated in this study, 9(60 %) improved on drugs which were continued for 12 -18 months[3]. A CT Scan was performed after every 3 months. The lesion showed regression during this period. In 3(20 %) who had associated hydrocephalus, V.P shunt was done in 2 (13.3 %) and antituberculous drugs were continued, the other patient expired before any intervention. A mortality of 7 % (1 patient) was seen because of critical condition at the time of admission as the patient had lesion in both the supra and infratentorial regions alongwith hydrocephalus.

Discussion

Tuberculomas which are now rare in Western countries[4] still have a high incidence in developing countries. There is no study available to indicate its incidence in Pakistan but an incidence of 20 % of all intracranial tumours is reported in India[5]. Diagnosis is done by CT Scan [6,7] alongwith ESR and other evidence of tuberculosis. Treatment is medical and a combination of three or four drugs is used. Follow up repeated CT Scans are most essential to see the response to therapy. Surgery is indicated in patients who fail to improve on medicines or there is deterioration in the consciousness or CT Scan shows increase in lesion size, oedema or mid-line shift. The lesions previously described as grape-like clusters, or edematous encephalopathy[5] were not seen in this study. Surgery was not done in cases with multiple lesions. Brain stem tuberculoma can be seen now on CT Scan or MRI which were diagnosed previously only at autopsy[8]. A mortality of 50-70%

by Arseni [9] in the period when antituberculous drugs were not available which decreased to 10-15 % is reported by Obrador [1]. A mortality of 7% is seen in this study. This low mortality may be due to early detection, early and effective therapy. This study shows that tuberculomas respond to medical treatment, and surgery should be done only in certain indications.

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