Intracranial Space Occupying Lesions - Review of 386 Cases

Pages with reference to book, From **319** To **320**

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Abstract

An analysis of 386 cases of Intracranial Space Occupying Lesions (SOL) iiicluding neoplastic and inflammatory masses diagnosed and treated atJmnah Postgraduate Medical Centre, Karachi over a period of 2 years is presented. C.T. Scan and MRI were used for the diagnosis of midline, multiple and very small lesions. S.O.L. were more common in males in the age group 11-20 years. Gliomas comprised 32.1% of the total cases followed by meningiomas 13.7%, abscesses 13.2% and pituitary turn ours 13.2%. Tuberculomas constituted 5.5% and therefore, should always be considered in the differential diagnosis (JPMA 45: 319, 1995).

Introduction

The availability of computed tomography (CT) and magnetic resonance imaging (MRI) has revolutionnalized the approach towards the management of intracranial lesions. Midline masses, multiple or very small lesions which were not diagnosed by angiography or other methods can now precisely be seen with C.T. Scan and M.R.I. Neurosurgery department at Jinnah Postgraduate Medical Centre, Karachi is a referral centre for the diagnosis and management of neurosurgical problems. A larger number of patients treated here belong to the poor and low economic strata of the society. All intracranial space occupying lesions, diagnosed and treated over the past two years were studied retrospectively and are presented. The preliminary data on the relevant frequencies, location, age and sex distribution is also included.

Patients and Methods

Three hundred and eighty-six case records of patients with intracranial space occupying lesions admitted between January, 1992 and December, 1994 were analyzed. All lesions whether primary or secondary, benign or malignant, inflammatory orparasitic and those involving the cranial cavity from contiguous structures were included. Aneurysms, hematonrns and orbital tumours were excluded. In all patients either, a C.T. Scan or M.R.I. was done to establish the diagnosis. Burrhole biopsy was performed in 6 cases which included stereotactic biopsy in deep seated or very small lesions. In 24 patients, the diagnosis was based on clinical and radiological findings only, as tissue diagnosis was not possible either due to location of the lesion or the condition of the patient.

Results

Age and sex distribution is shown in Table I.

Table I. Age and Sex Distribution

Age (Years)	Males	Females	Total	Percentage
1-10	41 (73.2%)	15 (26.8%)	56	14.5
10-20	66 (73.3%)	24 (36.4%)	90	23.3
21-30	46 (56.1%)	36 (44%)	82	21.2
31-40	41 (67.2%)	20 (32%)	61	16.0
41-50	34 (63%)	20 (37%)	54	13.4
51-60	24 (73%)	9 (27%)	33	8.5
Above 60 years	7 (73%)	3 (27%)	10	3.0

The highest incidence is seen in the second and third decade. Male to female ratio was 2:1. Two hundred and ninety-six (77%) patients had a supratentorial and 90 (23%) had infra-tentorial masses. Mid-line tumours were seen in 94 (24.3%) patients, out of which 55 (58.5%) had supratentorial and 39 (4 1.5%) posterior fossa masses. Glioma was the commonest tumour seen in this study, followed by infective lesions, meningiomas, pituitary tumours, accoustic neuromas and others (Table II).

Table II. Histopathological Varieties.

A. Glioma	124 (32.1%)
Astrocytoma I-II	79 (63.7%)
Glioblastoma	21 (16.9%)
Oligodendroglioma	11 (8.8%)
B. Infective lesions	88 (23%)
i. Pyogenic abscess	51 (13.2%)
ii. Granuloma	33 (8.54%)
a. Tuberculoma	21 (63.6%)
b. Fungal	12 (36.4%)
C. Meningioma	53 (13.7%)
D. Pituitary Adenoma	28 (7.2%)
E. Medulloblastoma	21 (6.2%)
F. Acoustic neuroma	16 (5.4%)
G. Craniopharyngioma	12 (3.1%)
H. Metastasis	13 (3.4%).

One hundred and twenty-four (32. 1%) patients had glioma, of which, 10 (8%) were in the posterior fossa and 3 (2.4%) were midline (Corpus Callosurn). Infective lesions 88 (23%) included pyogenic abscess and granulomas. Pyogenic abscess 51(13.2%) were common in males, 29 (57%) and in the second decade but 1 (1.9%) each was seen in filth and sixth decade. Amongst the granulomas, tuberculomas Were 21 (63.6%) with 6 (15.5%) patients having posterior fossa and 3 (24%) multiple lesions. Memngiomas (13.7%) were common in 4 1-50 years of age with 7 (1.5%) in posterior fossa and bilateral tumours arising from olfactory groove, falx or intra ventricular regions and extending across the midline in 8 (15%) patients. Pituitary tumours were most in the age between 30-40 years, while cranio pharyngiomas in the second decade. Metastatic deposits 13 (3.4%) were seen in fifth and sixth decade with 11(86.4%) supratentorial and 2 (15.4%) posterior fossa lesions with 10 (76%) solitary and 3 (24%) multiple. deposits. Ependymomas were encountered in 7 (1.8%) patients with 5 (71%) having lesions in posterior fossa. There were 5 (1.3%) patients with brain stem glioma in first decade and 2(0.5%) bad dennoids. Hythtid cyst was seen in 4 (1%), arachnoid cyst in 3 (0.75%), of

these, 2 were in posterior fossa and 1 was supratentorial Trigeminal neuroma was present in 2 (0.5%), colloid cyst in 3 (0.75%), pinealoma in 2 (0.5%), non-hodgkin lymphoma in 1 (0.25%), haemangioblastornas in 4(1%) and choroid plexus papilloma in 2 (0.5%) patients. In 24 (6.2%) patients, histopathology was not performed and the diagnosis was based on clinical features or radiological appearance'. In these cases pinealoma was suspected in 2 (0.5%), colloid cyst in 5 (1.3%), metastasis in 5(1.3%), brain stem glioma in 3 (0.8%), glioblastorna in 6 (1.5%) and tuberculoma in 3(0.8%) patients.

Discussion

The incidence of brain tumours in Pakistan is not known. This study does not reflect the true incidence as it was performed in only one centre of the city of Karachi. Majority of the tumours were seen in the 2nd and 3rd decade, 77% masses were above the tentorium which is similar to studies reported from other centres[1]. The most common tumour was glioma 124 (32%) followed by 88 infective lesions. Among the gliomas, the frequency of astrocytomas 1-11 was noted to be 79 (64%) which was more than the frequency of 45% reported by Mahaley[2] and Jellinger[3]. Seven patients (1.8%) had ependy-moma which is less than frequency of 3- 5% reported by other[4,5]. Medulloblastoma was seen in 21(6.2%) in the first decade, while reported incidence is 4-10%[6]. Menrngiomas were observed in 13.7% which does not differ from reported incidence[7]. The highest frequency of intracranial masses including the infective lesions 22% (abscess 13.2% and granuloma 8.5%) was seen in age group 11-20. Excluding the infective cases, the largest number of the lesions was noted in the age group 21-30, which corresponds to the other studies[7]. The high percentage of infective lesions could be attributed to the poor hygenic conditions and low socioeconomic status of our population. The incidence of metastasis was lower than reported by others[8]. This may be due to non-referral of cases after the diagnosis of a metastatic lesion. The provision of modern diagnostic facilities e.g., C.T Scan and MRI is desirable for early diagnosis of brain tumours. A central registry should be maintained to have the exact incidence and pattern of these lesions.

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