CRANIOPHARYNGIOMAS

AKAR Z., M.D., ÖZCINAR G., MD., CANBAZ B., MD., ÖZYURT E., MD., SARIOĞLU AC., MD., SAYIN E., MD., KUDAY C., MD., KEPOGLU Ü., MD., AKMAN H., MD.

ISNTANBUL UNIVERSITY CERRAHPASA MEDICAL FACULTY DEPARTMENT OF NEUROSURGERY

In the present study 50 cases with craniopharyngiomas, treated at the Department of Neurosurgery of Cerrahpasa Faculty of Medicine between 1982-1990, have been evaluated.

The age of the patients was ranging from 4 to 44 years. The average duration of symptoms was 15 months. Headache, impaired vision, vomiting and less frequently papillaedema were the outstanding symptoms.

In 46 cases the surgical approach was pterional or subfrontal and in 4 cases transcortical. In 41 patients total gross removal was possible. 4 patients died postoperatively, morbidity was seen in 7 cases.

33. *Pituitary apoplexy.*
E. Pasztor, S. Czirjak, G. Szeifert

34. *Acute Apoplexy in pituitary macroadenoma.*
Moshe Hadani M.D., Meir Beresin M.D., Abraham Sahar M.D.

35. *Pituitary apoplexy.*
B. Acikgöz, H. Caner, K. Tahta, T. Özgen, OE. Özgan, A. Erbengi

36. *Craniopharyngiomas*
Z. Akar, G. Özcinar, B. Canbaz, E. Özyurt, AC. Sarioglu , E. Sayin, C. Kuday, Ö. Kepoglu, H. Akman

37. *Craniopharyngiomas (a review of 138 cases).*
H.Z. Gökalp, E. Arasil, A. Erdem, Y.S. Caglar, V. Aydin V.

38. *Craniopharyngiomas - study of 58 cases.*
A.V. Ciurea, D. Voinescu, I.ST. Florian, C. Zamfir and R. Mircea.

10.00 - 10.30 Coffee break

Chairman: **Prof. J. Garfield, Prof. A. Constantinovici, Pr. L. Calatayud**

10.30 - 11.00 *Complications to transphenoidal surgery*
J. Astrup, Denmark

11.00 - 11.30 *Hypothalamic tumors in children*
A. Raimondi, Italy

11.30 - 12.00 *Gliomas of the third ventricle*
A. Konovalov, Russia

12.00 - 12.30 *Gliomas of the optic chiasm*
C. Lapras, France

12.30 - 12.45 Coffee break

12.45 - 13.30 *European Lecture* - Dries van der Werf ***"What can the Doctor learn from his patient and the patient from being ill"***

13.30 - 15.00 Lunch

Scientific Session V

Chairman: **Prof. G. Lanner, Prof. A. Sahar, Pr. A. Kerkesselian**

15.00 - 15.20 *Endoscopic treatment of suprasellar arachnoid cysts*
J. Caemert - L. Calliaw (video)

15.20 - 15.50 *Image directed stereotatic biopsy of suprasellar lesion*
D. Thomas, England

15.50 - 16.20 *Minimally invasive Neurosurgery*
B. L. Bauer, Germany

16.20 - 16.40 Coffee break

Fifty cases operated on for craniopharyngioma between 1982-1990 are described. Most frequently encountered symptoms were headache, visual disturbances and complaints related to the endocrine system. 41 tumors were able to be totally removed. For 9 subtotal removal was appropriate. The subtotal removal cases were those in which the intracapsular space was emptied. Fourty-one of our patients were followed up over a 6 month to 9 year period. Overall mortality was 8% in our series. 2 of them died in the early postoperative period. 4 of our patients needed further surgery due to reccurence.

KEY WORDS: Craniopharyngioma, Hypopituitarism, Hypothalamic neoplasms.

INTRODUCTION :

Craniopharyngiomas are thought to arise from squamous epithelial cell rests associated with Rathke's pouch and the embryologic development of the pituitary. These tumors are virtually always related to the pituitary stalk, and may arise from any point along the infundibulum, from the hypothalamus proper on down into the pituitary gland itself. Generally craniopharyngiomas are histolologically benign tumors.

The incidence of these tumors is 0,5-1,5 per milion per year(10,12). It constitutes 3% of all intracranial tumors and 8-13% of intracranial tumors in childhood(5,6,15).

In this report we reviewed and discussed our experience about craniopharyngioma.

MATERIAL AND METHOD :

Fifty patients with identified craniopharyngioma hospitalized between 1982 and 1990 were studied retrospectively. All the cases were treated surgically in the University of Istanbul Cerrahpaşa Medical Faculty Department of Neurosurgery. Clinical features, radiological findings, histopathology, surgical technique and the survival were discussed and results were compared with the literature.

RESULTS :

Twenty-two cases were women and 28 were men. Seventy three percent of patients were between one and 30 years of age. The childhood group included 21 cases.

In our series the most frequently encountered symptoms were headache, visual disturbances and complaints related to the endocrine system. Of the endocrine system complaints, growth retardation in children and inhibition of sexual maturation presenting as amenorrhea and impotance were most commonly seen. We have 5 patients with depressed conscious level.

26 of our patients vision was affected to a varying degree. 22 of these were imparied vision and 4 were total vision loss. The most frequently encountered defects when measured with perimetry were hemianopsia and quadrantopia. It was determined that in 40 cases fundus pathology was present (Table 1).

symptoms.

The tumor mass may be solid, multilobule, cystic or with calcification. Preoperative skull radiographs were abnormal in most of the children, but only half of the adults(12). The most common abnormality in the skull radiographs (57%), and typical features in CT(70-93%) are calcification(3,11,14,15). Nearly 60 percent of these tumors are cystic (11,15). Our proportions agreed with these. MRI has a defect to demonstrate the calcification in CNS tumors. We couldn't find any findings about calcification by MRI too. Cysts tend to be hypodense compared with brain tissue, but also be isodense and therefore CT-negative(1,7,12). There wasn't any false negative CT in our series.

Some of the patients with craniopharyngioma demonstrated hydrocephalus due to the obstruction of foramen Monro or basal cysterns. Not only hydrocephalus associated with increased intracranial pressure but also dilated ventricles of modest degree associated with normal pressures may contribute to a lethargic or unsatisfactory mental state and require a shunt of cerebrospinal fluid out of the ventricles(8,15). According to our opinion if tumor resection is done immediately preoperative shunt procedure is not necessary. We haven't any patient requiring shunt procedure neither preoperative nor postoperative period.

Our patients tumors were divided in four different types related to their directions of growth and localisations according to Jacques Rougerie(8): 1)Prechiasmatic [26 patients], 2) Intrasellar [4 patients], 3)Retrochiasmatic [11 patients], 4) Giant [9 patients]. This classification is important for us to make the surgical planning before the operation.

Raimondi and Rougerie and coworkers as having suggested that inoperability may be determined by any one of the following conditions(8): prefixed optic chiasm, marked upward extension in to the floor of the III ventricle, extensive unilateral or bilateral temporal lobe involvement, firm adhesions between the tumor capsule, hypothalamus and optic chiasm. Consequently the most important factor for removing the craniopharyngioma is anatomic location of the tumor. This determines the clinical course and symptomatology and cause the arterial and ventricular changes identified through neuroradiologic procedures.

The optimal modes of treatment are yet to be established. The alternatives include radical surgery with or without radiotherapy(12), non-radical surgery with radiotherapy(2,12), and palliative surgery and/or conventional or stereotactic radiotheraphy(12).

The vascular changes permit an appraisal as to whether the tumor mass may be partially or totally excised, and the predictability of ultimate prognosis regarding survival and quality of survival. Because the craniopharyngoma though it may invade cerebral parenchyma, causes its major damage by growing and stertching. We were able to remove tumors totally in 41 cases. The subtotal removal cases were those in which the intracapsular space was emptied. Seventy-eight percent of our patients had an excellent or good outcome and were able to lead almost normal lives. Our

ENDOCRINE SIGNS	**26**
Impotence	5
Growth retard	8
Diabetes Ins	4
Amenorrhea	9
VISUAL IMPAIRMENT	**26**
Blindnes	4
Impaired vision	22
PERIMETRIC SIGNS	**22**
Quadrantic	3
Bitemp. Hem.anop.	10
Hemianopsia	9
FUNDOSCOPIC SIGNS	**40**
Atrophy	11
Oedema	29

CLINICAL FINDINGS

TABLE : 1

COMPLICATIONS	NUMBER	PERCENTAGE
Diabetes Insipidus	9	18
Aseptic Meningitis	6	12
Optic nerve def.	5	10
Hematoma	4	8
Motor dysfunction	4	8

POSTOPERATUAR COMPLICATIONS

TABLE : 2

GRADE	NUMBER	PERCENTAGE
GOOD	*39*	*78*
MODERATE	*5*	*10*
POOR	*2*	*4*
DIED	*4*	*8*

SURGICAL RESULTS

TABLE : 3