

and invasiveness, as determined by imaging studies (MRI, CT scan and X-ray films of the skull), with respect to the size, microadenomas are smaller than 1cm in greatest diameter, and macroadenomas are larger than this^[1].

Microscopically pituitary adenomas are generally monomorphous proliferation, consists of a single relatively uniform, homogenous staining cell population with no acinar arrangement, surrounded by a condensed rim of non tumorous pituitary tissue and its condensed reticuline network, which collectively constitute the adenomas pseudocapsule. Pituitary adenomas can be classified into acidophilic, basophilic, and cromophobe adenomas according to their staining property with hematoxylin-eosin preparation^[1].

Pituitary adenomas present either as hormonal dysfunction, or as visual disturbance due to chiasmal compression. The management of pituitary adenoma is challenging, as complete surgical removal is sometimes difficult to achieve and is usually associated with substantial morbidity and mortality, on the other hand, other therapeutic modalities such as radiosurgery and radiotherapy are of limited efficacy on their own, and are used as adjuvant to surgical treatment^[3-6].

Methods

The material of this study included 55 consecutive patients with pituitary adenoma surgically treated during the period of January 1997 to April 1999 in four neurosurgical centers in Baghdad, Al-Kadmya hospital (T), the neurosurgical hospital, the neurosurgical dep. Medical City (T) and the Nursing home, Medical City. The patient's files were reviewed and all biographic, clinical, radiological, and treatment data uniformly collected according to previously designed data sheet. The collected data included: patients age (according to decades),

sex, duration of illness and the presenting symptom.

The physical signs documented include visual acuity and visual fields, presence of optic atrophy on fundus examination, evidence of endocrine dysfunction as acromegaly, hyperprolactinemia and the development of secondary sexual characteristics. Serum hormonal level (prolactin, growth hormone, thyroxine, cortisol, follicular stimulating hormone (FSH) and leutenizing hormone (LH) was recorded. On lateral skull X-ray the findings were classified into grades as follow^[7].

G I: Normal size sella with focal erosion

G II: Enlarged not eroded sella

G III: Enlarged eroded, ballooned or double floor sella

G IV: Completely destructed sella (Ghost sella)

On CT scan, MRI and MRA data such as extension of the tumor to the frontal, and temporal lobes and to the cavernous sinus as well as hydrocephalus was recorded.

Operative data were documented including the surgical approach (right sub frontal craniotomy or sub labial trans-sphenoidal approach). The choice of surgical approach depended on the presence or absence of extrasellar extension of the tumor. The extent of tumor excision whether total (capsular) or subtotal (intracapsular) resection, Outcome including complications, mortality, and Postoperative radiotherapy was recorded.

Follow-up notes were reviewed and the patient's clinical, endocrinological and radiological findings were documented. Tumor recurrence was defined as re-growth of tumor as appeared in the follow up CT scan and MRI or both, or recurrence of symptoms. The outcome of treatment was considered good if the patient is alive, having improved or stable useful vision, good school performance or is employed and poor