

Pituitary Adenomas:  
Patterns of visual presentation, and  
outcome after transsphenoidal surgery  
An Institutional experience

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# Introduction

- Pituitary adenomas account for 10 - 15% of primary brain tumors.
- Transsphenoidal approach is the procedure of choice for the removal of most pituitary tumors.



# Introduction

- Pituitary adenomas may be classified clinically according to size or functional status
- Microadenoma  $\leq$  10 millimeters and Macroadenoma  $>$  10 millimeters
- Non-Functioning adenoma Endocrinologically inactive. Functioning adenoma; hormonally active pituitary adenomas.

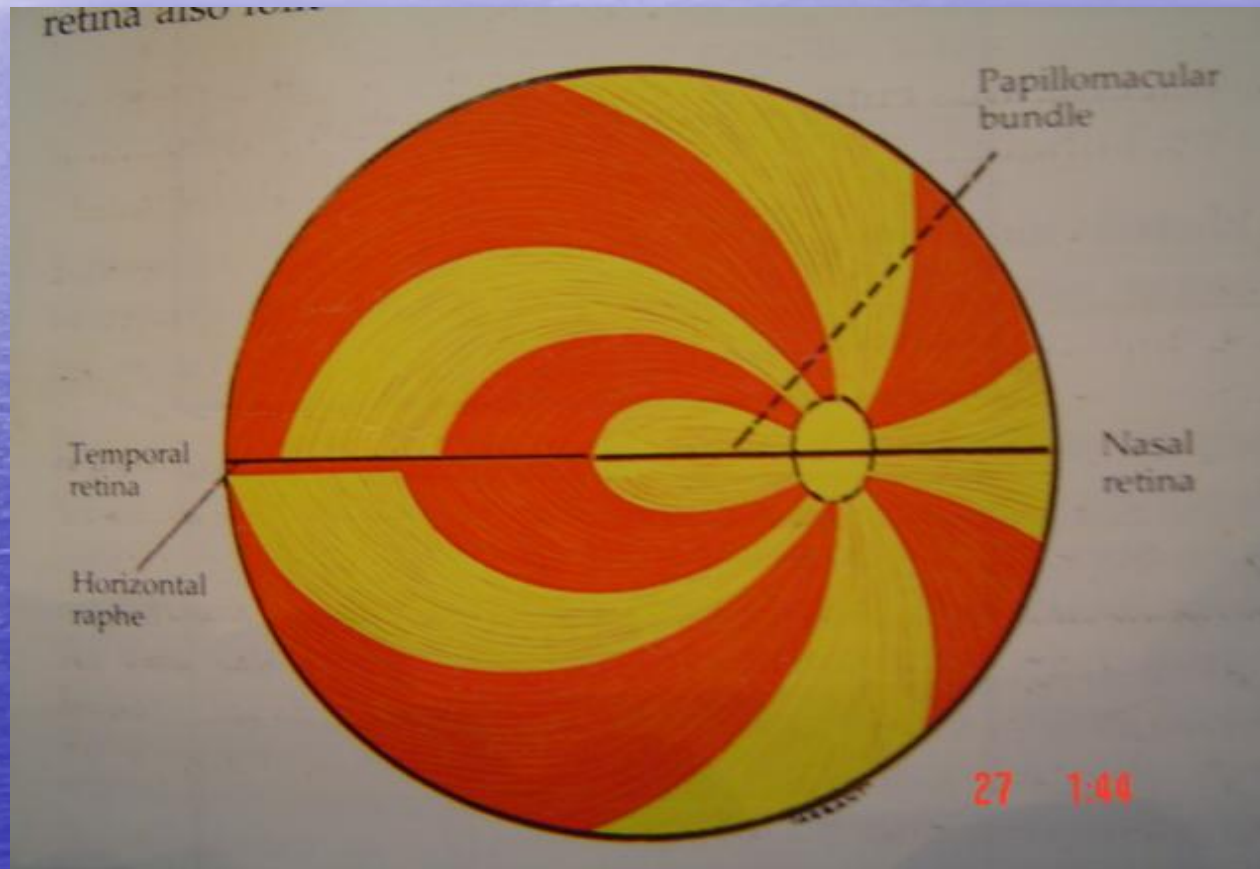
# Presentation of pituitary adenomas

Pituitary adenomas are considered the most common intracranial tumour to produce neuro-ophthalmological features

- 1-Headache as a result of involvement of pain-sensitive fibers in diaphragma sellae.
- 2-visual symptoms bitemporal field defect
- 3-colour desaturation across the vertical midline is the earliest sign of a chiasmal field defect.

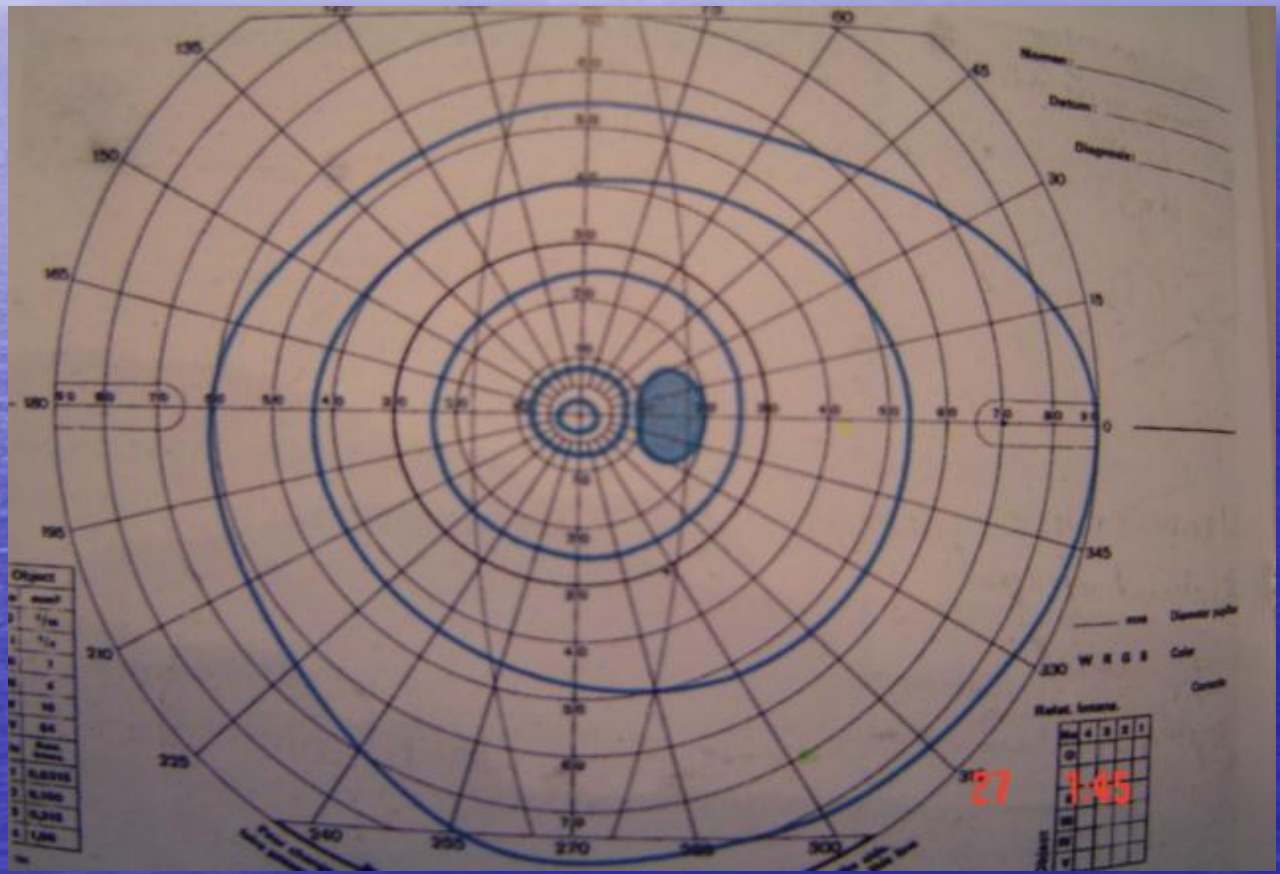






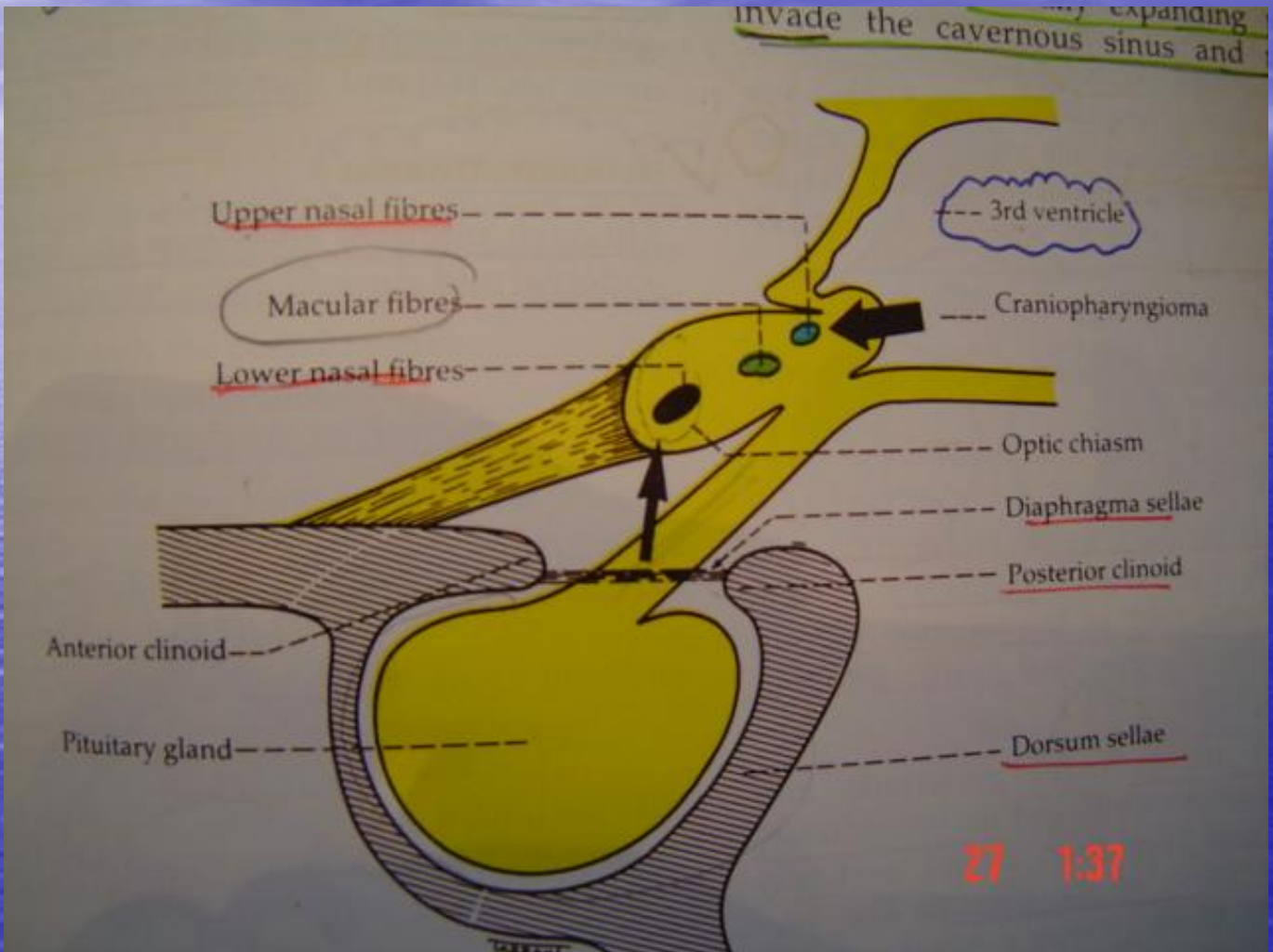


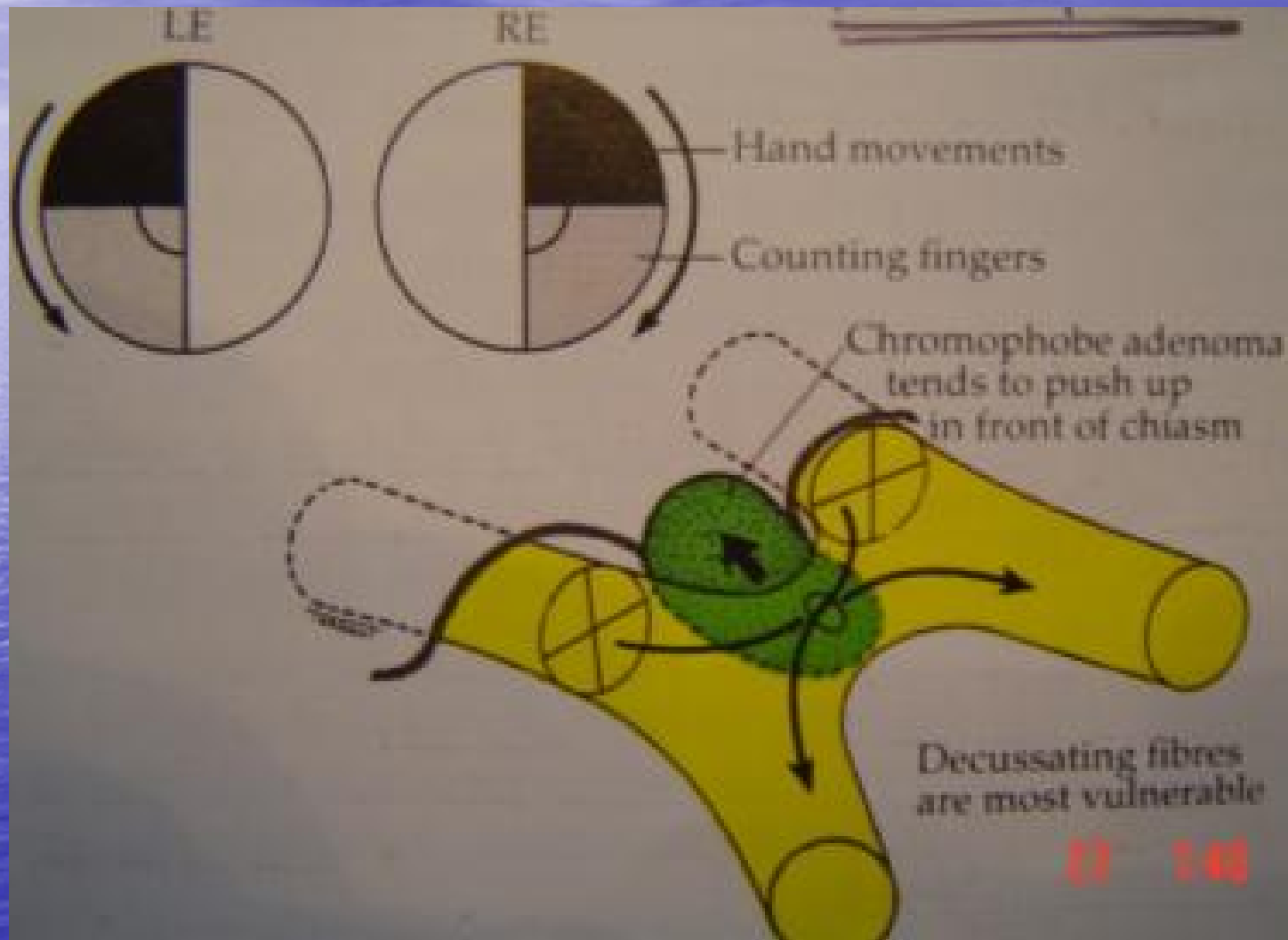


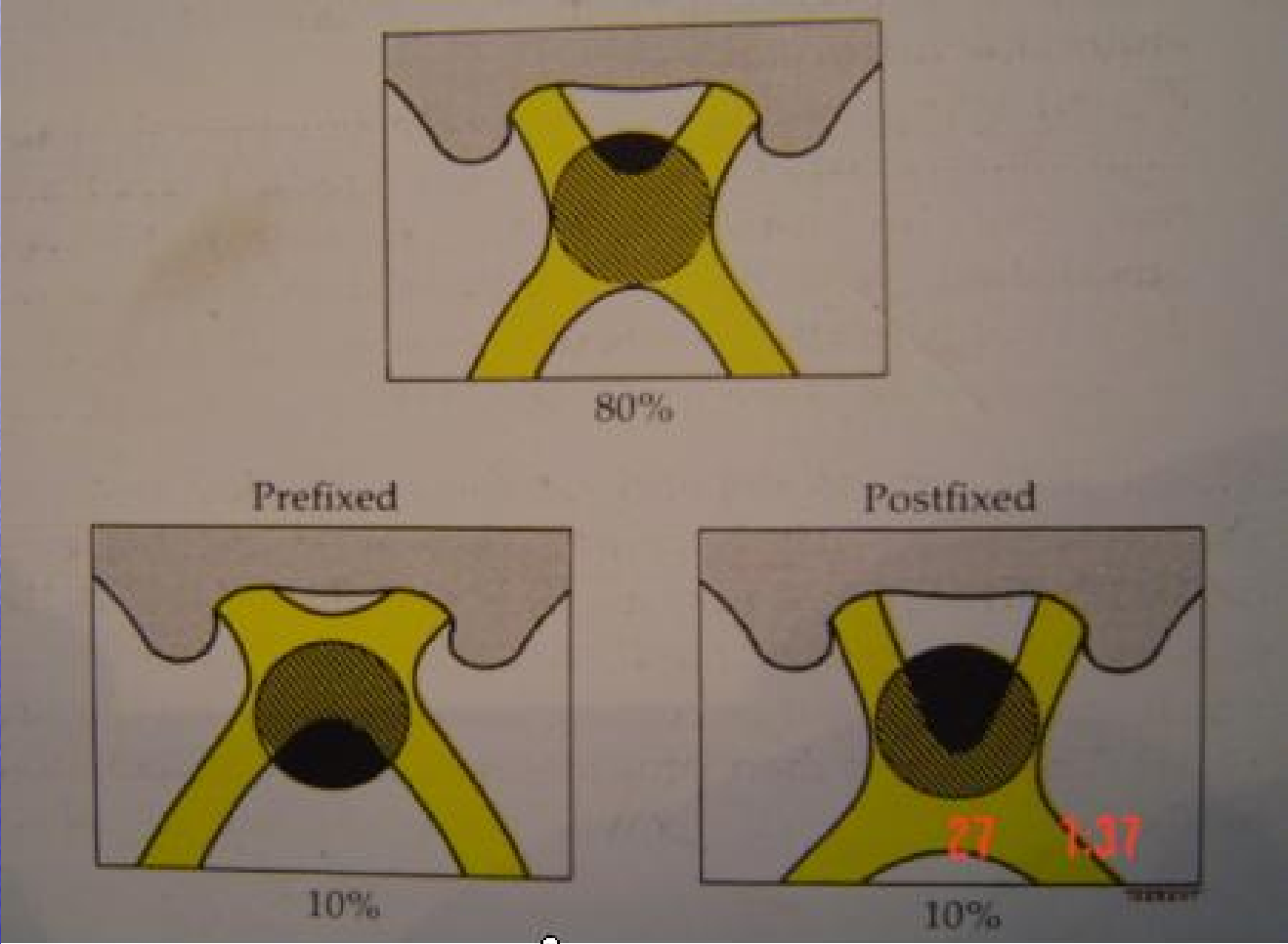




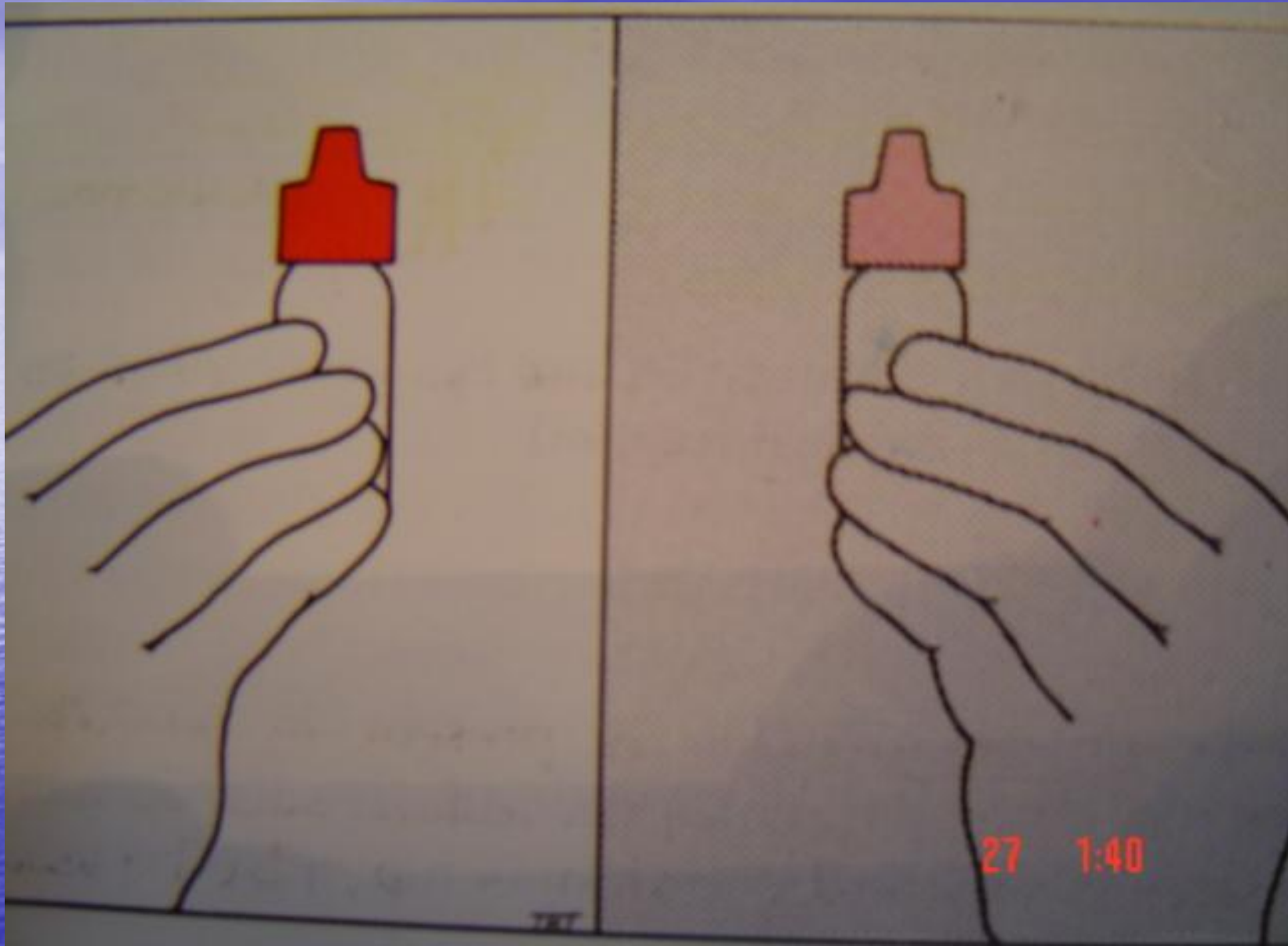
invade the cavernous sinus and expanding

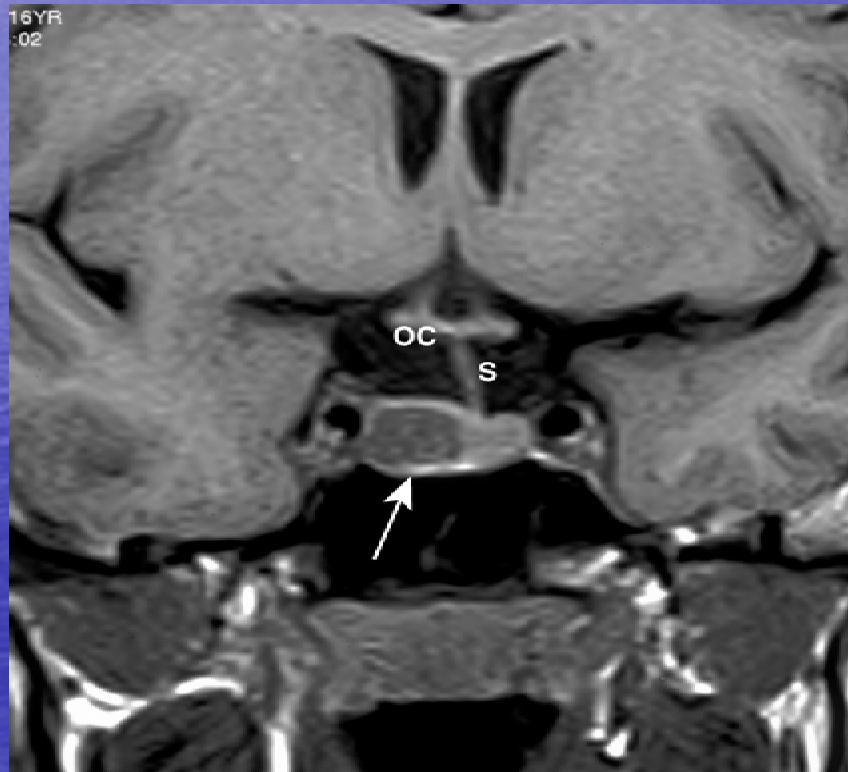


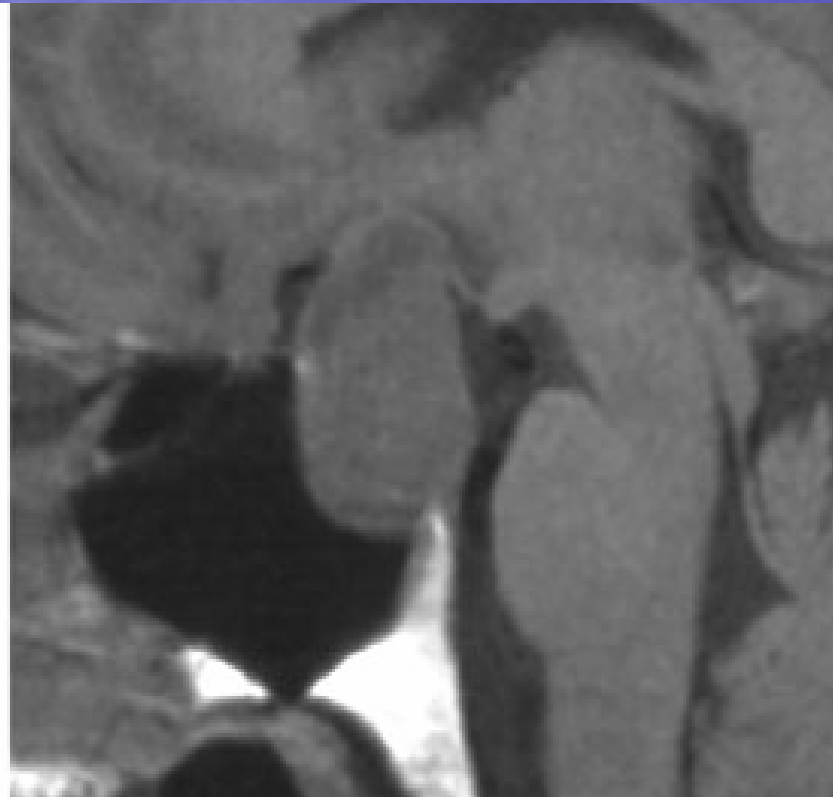
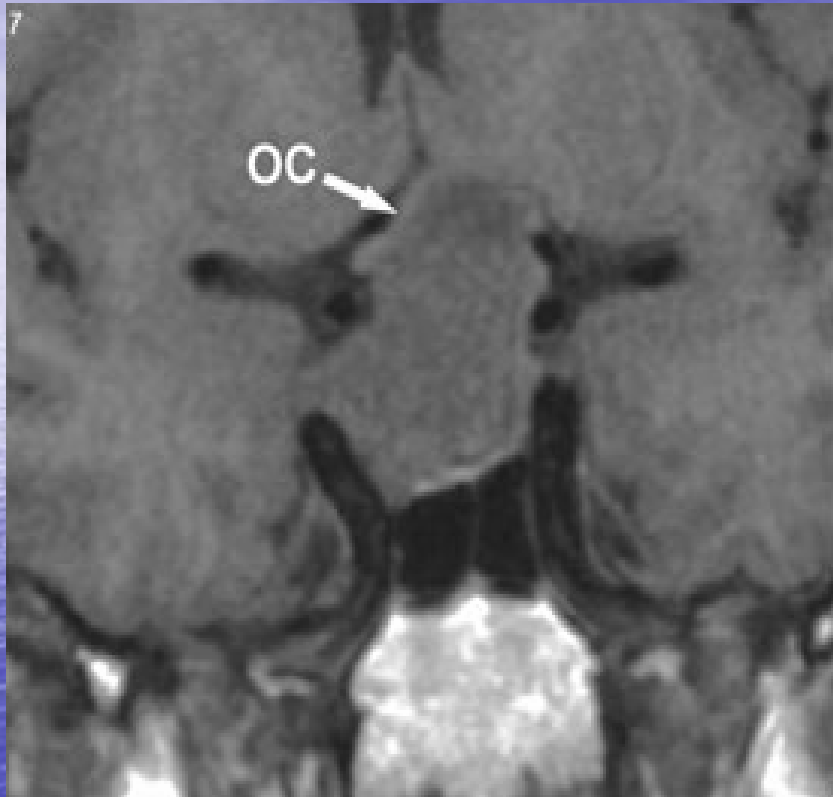














# Study (KKUH)

- A cooperative work between neurosurgery division and ophthalmology department.
- To study the different types of visual presentation in patients with pituitary adenomas, and to assess the visual outcome after transsphenoidal surgery.

# Methods

- A retrospective analysis of 86 cases of pituitary adenomas that had undergone surgery by transsphenoidal route between 1995 and 2004.
- The pattern of visual presentation before surgery was assessed by an ophthalmologist in the Eye clinic for 62 patients including; visual acuity, visual field and afferent pupillary defect.



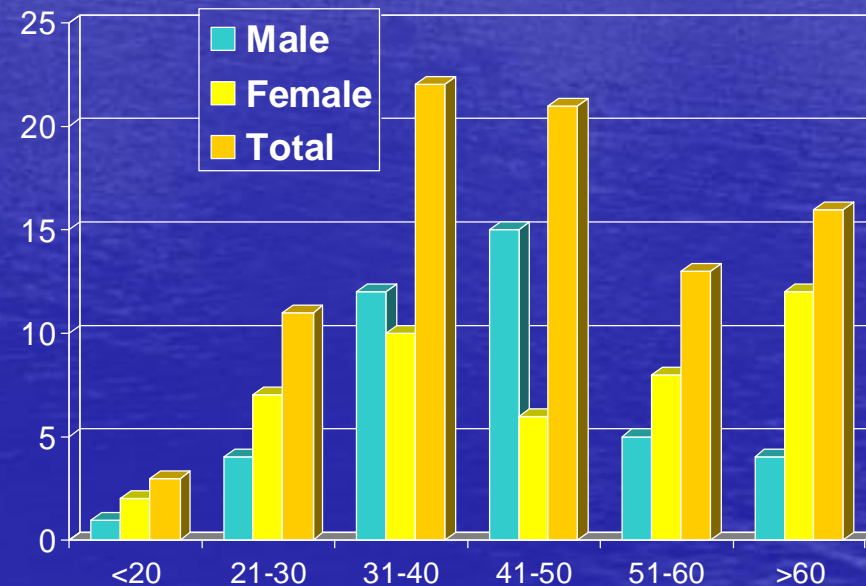
# Methods

- 26 patients had ophthalmological bed side examination were excluded from the study.
- The correlation between age, duration of symptoms, pre- and post-operative visual acuity, visual field and histopathological findings were analyzed.



# Age & sex

- Age ranged between 15 and 83 years.
- 45 patients were females and 41 were males.



# Preoperative V.A.

	No of patients	One eye	Both eyes	No of eyes affected
No visual symptoms	29	-	-	-
Decrease vision	30	15	$15 \times 2 = 30$	45
Blindness	3	2	$1 \times 2 = 2$	4
Total	62	17	32	49

# Preoperative V.F. & APD

	No. of patients	No. of eyes
Normal field	33	72
BTH	22	44
TFD (one eye)	4	4
Blind	3	4
APD	22	



# Operative procedure

- All patients underwent transsphenoidal adenomectomy by neurosurgeons at KKUH.
- Histopathological examination confirmed the diagnosis of pituitary adenoma.

Non functioning	32
GH sec.	15
Prolactinomas	12
Gonadotroph sec	3

# Postoperative V.A.

- F.U. period ranged between one month and 7 years, mean 23 months.
- 40 eyes improved V.A. (80% of affected eyes).
- 81 eyes remained stable after surgery and during F.U.
- Three eyes deteriorated (2.4%) due to tumour recurrence in one eye and postoperative hematoma in one patient.



# Postoperative V.F.

- 14 eyes showed marked improvement in V. F (11%)
- 86% of V.F remained stable
- Three eyes deteriorated their field after surgery (2.4%)



# Conclusion

- This study shows that 80% of affected eyes improved after surgery, even severely affected eyes may have remarkable improvement in vision if surgical decompression of the optic apparatus is undertaken early.
- Transsphenoidal route is a relatively safe procedure for pituitary adenoma patients with visual impairment.

# Conclusion

- Awareness of ophthalmologist and endocrinologist about early detection of pituitary adenoma patients and timely neurosurgical intervention will certainly improve visual outcome.



Thank you