



Certificate of Attendance

This is to Certify that

HIDAYAT, MD

Has attended as

SPEAKER

In The 37th Annual Scientific Meeting
Of Indonesian Ophthalmologist Association


Surabaya, July 5 – 7, 2012

Wimbo Sasono, MD
Chairman of The Organizing Committee




Prof. Nila F. Moeloek, MD, PhD.
President of Indonesian Ophthalmologist Association

SK PB IDI No. : 2228/PB/A.4/06/2012 :
Participant 12 SKP IDI, Speaker/Instructor 12 SKP IDI, Moderator 4 SKP IDI, Committee 2 SKP IDI



VISUAL DYSFUNCTION IN OPTIC CHIASM SYNDROME


M. HIDAYAT
FACULTY OF MEDICINE, ANDALAS UNIVERSITY
/M. DJAMIL HOSPITAL
PADANG



- Optic chiasm, most important
Arrangement of visual fibers
Characteristic of visual field
- Bitemporal defects:
 - a) Superior
 - b) Inferior
 - c) Complete
 - d) Peripheral, central

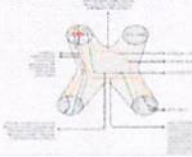
ANATOMY OF CHIASM

- Width : 12 mm
- Length : 8 mm (antero posterior)
- Inclined : 45°
- Location : anterior hypothalamus & anterior third ventricle
- 10 mm above sella
- Vascular supply :
 - Anterior communicating artery
 - Anterior cerebri artery
 - Circle of Willis



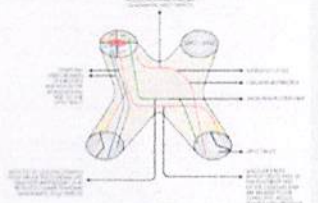
OPTIC CHIASM

- 53% fiber from nasal retina crossed to opposite — contra lateral.
- Inferior nasal fibers cross anterior loop in to contra lateral (Willbrand's knee)
- Macular fiber cross posterosuperior



VISUAL DEFECTS BY LESION DAMAGE

- a) Anterior angle of chiasm
- b) The body of chiasm
- c) Posterior angle of chiasm



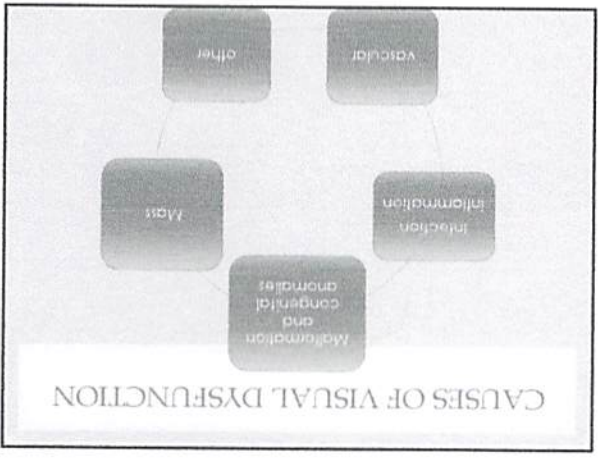
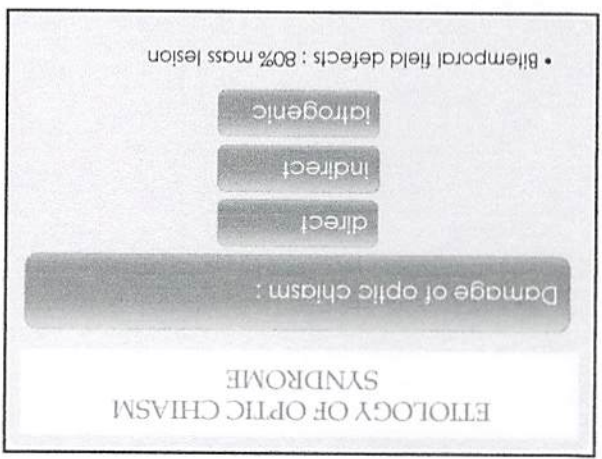
ANTERIOR ANGLE OF CHIASM

Compression to anterior angle of chiasm

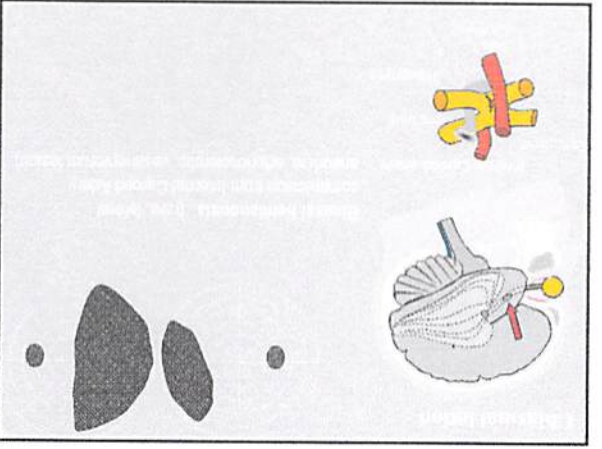
- Small lesion damages the crossing fibers of ipsilateral eye → field defect: monocular and temporal
- Damage of macular crossed fibers : monocular, temporal defects and parasentral scotoma
- Damage fiber from nasal contralateral, anterior extension : central ipsilateral scotoma and contralateral upper temporal quadrant ("Willbrand's Knee")

- Malformation and congenital anomalies
 - a) Encephalocell
 - b) Craniopharyngioma
 - Masses
 - a) Pituitary adenomas
 - b) Sphenoid ridge
 - c) Ectopic sinus cavernosus
 - d) Glioma
 - e) Supra sella meningioma
 - f) Craniopharyngiomas

- Infection and inflammation
 - a) Chiasmata arachnoiditis
 - b) Sarcoid
 - c) Meningitis
 - Vascular
 - a) Compression by aneurysm internal carotid artery
 - b) Radiation necrosis
 - c) Dolichectatic vessels



- DAMAGE LATERAL OF THE CHIASM**
- Contralateral Homonymous Hemianopia
 - Hemianopia binasal caused by sclerotic of internal carotid arteries
 - If lesion spread from optic nerve or optic tract to chiasm → ipsilateral blindness



IA TROGENIC OPTIC CHIASM SYNDROME

- After lesion removal or chiasm infiltration
- Radiation
- Dopamin Agonist

Hemianopsia defect, causes by posterior fossa lesion.

Increased Intra Cranial Pressure and compression from third ventricle enlargement

Ventricle compression to posterior inferior chiasm :

- a) Bilateral central scotoma
- b) Bilateral nasal scotoma
- c) Arcuate scotoma
- d) Superior hemianopsia scotoma

Empty sella syndrome :

- Spreading of subarachnoid to sella turcica.
- Chiasm dysgenesis, achiasm, with congenital nistagmus
- Marked by bilateral visual field loss with or without visual acuity and dyschromatopsia
- Complete Hemianopsia bilateral: caused by optic chiasm trauma

UNCOMMON

- During pregnancy: chiasm → visual impairment → recovery after delivery
- Enlargement of pituitary Gland → compression of chiasm → visual impairment → recovery after delivery
- Adenohypophysitis lymphocitic
- Apoplexy pituitary

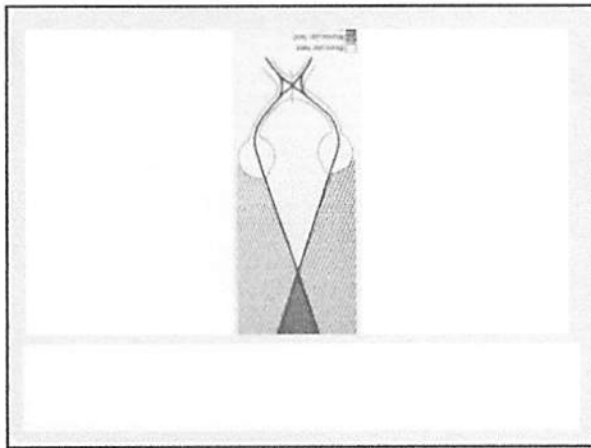
COMMON CAUSES

- Adenoma pituitary
- Meningioma supra sella
- Craniogloma
- Glioma
- Internal artery carotid aneurism
- Rare
- Multiple sclerosis
- Sarcoidosis
- SLE

- Hydrocephalus
- Dilated third ventricle
- Empty sella syndrome
- Multiple sclerosis
- Trauma
- Other

- Hemianopsia temporal with optic atrophy, appearing as a band across the disc (band atrophy)
- Hemianopsia temporal with papilledema caused by pre and post chiasm tumor (supra chiasmal tumors like compression by third ventricle)

- Diplopia or reading difficulty
 - Caused by a horizontal or vertical deviation of images
 - "Hemifield slide phenomenon"
 - none ocular motor paresis
- Diplopia may be caused by ocular motor paresis in subarachnoid or sinus cavernosus space
- Pain → trigeminal affected
- Strabismus → opoplexy of pituitary or process extinsic of chiasm



Depth perception impairment

- Complain : difficulty to do activity with precision
- Convergence results in crossing of two blind temporal hemifield
- This produces a completely blind triangular area of field with its apex at fixation

Testing for stereopsis can also be helpful in patients with suspected chiasmal disorders.

SMTOMPS OPTIC CHIASM SYNDROME

- Progressive loss of central acuity
- Thing suddenly disappearing, blurring, diplopia, loss of depth perception
- Bitemporal field defect : Complete Scotoma

PATHOPHYSIOLOGY

- Chiasm was compressed : initially, lower nasal and later the upper nasal
- Ischemic → chiasm infarct : visual acuity decrease and visual field defect
- Visual improvement: after compression removal
- Visual impairment will happen caused by compression (conduction block, demyelination and axon transport loss)

