Early Detection Of Glaucoma – Clinical Clues
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I. The Glaucoma Spectrum
   a. Undetectable Disease
      i. Accelerated apoptosis
      ii. Ganglion cell death
      iii. Undetectable nerve fiber layer change

   b. Asymptomatic disease
      i. Detectable nerve fiber layer change

   c. Functional impairment
      i. SWAP visual field changes
      ii. White-on-white visual field changes
      iii. Severe visual field changes
      iv. Blindness

II. Glaucoma Risk Factors
    a. Family History
    b. Intraocular pressure
    c. Myopia
    d. Cardiovascular disease
    e. Age
    f. Corneal thinness
    g. Assymetry
    h. Race

III. Risk factor analysis

IV. Optic disk pathology in glaucoma
    a. Thinning of neuroretinal rim
    b. Deepening of optic cup
    c. Nerve fiber layer atrophy
    d. Splinter hemorrhages
    e. Peripapillary atrophy

V. Pathogenesis of disk disease
    a. Elevated IOP
    b. Ischemia
c. Autoregulation dysfunction
d. Glutamate toxicity

VI. Conversion From Glaucoma Suspect To Glaucoma Patient
a. OHTS Study
   i. Predictive risk factors
      1. Older age
      2. Larger vertical C/D ratio
      3. Higher baseline IOP
      4. Thinner corneas

b. Pachymetry
   i. OHTS study and pachymetry
   ii. Fudge-factor for IOP and pachmetry
   iii. Central corneal thickness and Visual field loss
   iv. Corneal thickness and RNFL thickness
   v. Structural differences

c. IOP studies
   i. Low IOP, low diurnal curve
   ii. Asrani study
   iii. Mao study
   iv. AGIS study

d. Visual field as predictor of glaucoma
   i. Glaucoma hemifield test
   ii. Cluster defects
   iii. 4 abnormal locations

e. Imaging and conversion to glaucoma
   i. HRT
   ii. RTA
   iii. OCT
f. Corneal hysteresis
   i. Clinical meaning
   ii. Predictor of conversion or progression

VII. Visual Evoked Potential
a. Clinical relevance
b. Specificity for glaucoma
c. Measurement technique
VIII. IOP and glaucoma
a. Pressure Readings
   i. Average IOP
   ii. Peak IOP
   iii. Diurnal curve

b. IOP measurement
   i. Goldmann
   ii. Pascal (DCT)
   iii. Serial tonometry

IX. How to prevent progression
X. How to detect progression