

ARMD

- Also called senile macular degeneration
- Bilateral disease of persons over 50 years of age
- Leading cause of blindness in developed countries in a population of above 65 years of age

ETIOPATHOGENESIS

- risk factors are heredity, nutrition, smoking, hypertension, exposure to sun light, hyperopia, blue eyes and cataract particularly nuclear opacity.
- The disease is most prevalent in Caucasians.

CLINICAL TYPES

- 1 Non exudative
- 2 Exudative

1. Non-exudative or atrophic ARMD

- It is also called dry or geographic ARMD
- **SYMPTOMS-**
- Mild to moderate gradual loss of vision.
- Patients may complain of Distorted vision and difficulty in reading due to Central shadowing

- **SIGNS-** can be described as 3 stages
- EARLY STAGE – characterized by macular drusens, focal hyperpigmentation, pale area of retinal pigment atrophy
- INTERMEDIATE STAGE- show sharply circumscribed circular areas of RPE ATROPHY , loss of chorio capillaries, macular drusens
- ADVANCED STAGE- enlargement of atrophic areas within which the larger choroidal vessels may become visible and pre existing drusen disappear(geographical atrophy)

Non exudative ARMD



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- **2.EXUDATIVE-**

- Associated with comparatively rapidly progressive marked loss of vision
- **TYPICAL LESIONS**
- drusen with retinal pigment epithelial detachment- dome shaped elevation
- Choroidal neovascularisation proliferating in sub RPE space-(type 1) , subretinal space(type 2)
- Haemorrhagic pigment epithelial detachment(PED)-dark elevated mount
- Haemorrhagic detachment of neurosensory retina
- Disciform sub-retinal scarring

Exudative ARMD

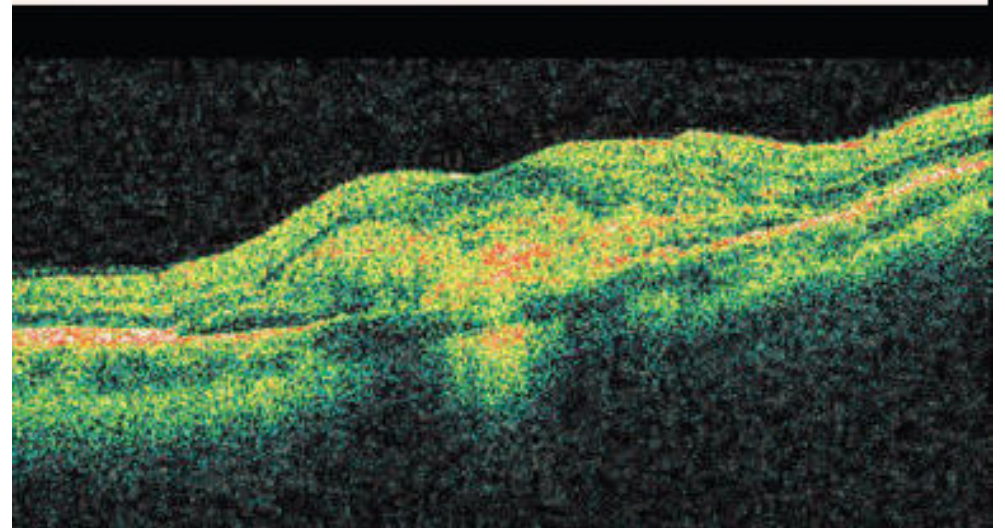


DIAGNOSIS

- Examination of macula by slitlamp biomicroscopy with +90D/+78D non contact lens or mainster contact lens
- Fundus fluorescein angiography and indocyanine green angiography help in detecting choroidal neovascularization (CNV) in relation to foveal avascular zone. CNV may be classical or occult:
- Classical CNVM -lacy hyperfluorescence with progressive leakage
- Occult CNVM- stippled hyperfluorescence(type 1) or as late leakage of undetermined source(type2)
- Optical coherence tomography (OCT) reveals subretinal fluid, intraretinal thickening, choroidal neovascularization and haemorrhages in exudative ARMD



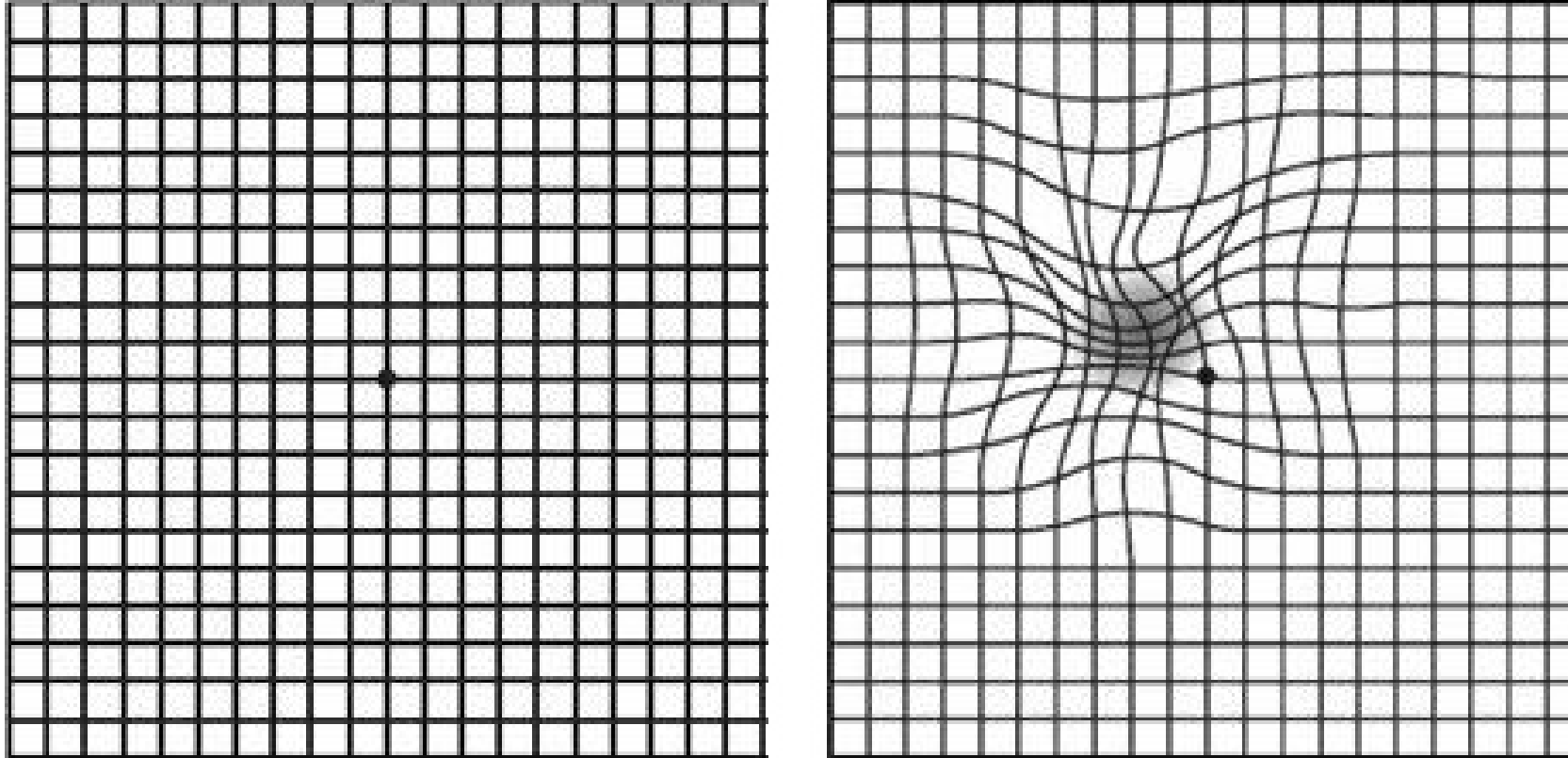
FFA showing leakage and lacy pattern in CNVM



OCT picture of CNVM

TREATMENT

- **Treatment of non exudative ARMD**
- Dietary supplements and antioxidants
- Smoking cessation
- Amsler grid used regularly allows the patients to detect new or progressive metamorphopsia prompting them to seek ophthalmic advice.
- Refraction with increased near add may be helpful in early cases
- Low vision aid may be needed in advanced cases of geographical atrophy.



Amsler grid viewed with normal vision and with wet AMD.

- ***Treatment modalities available for exudative (neovascular)ARMD :***
- Intravitreal anti-VEGF therapy has become the treatment of first choice for all CNV lesions. Anti-VEGFs are injected intravitreally.
- These include: Bevacizumab (Avastin), dose: 1.25 mg, or
- Ranibizumab (Lucentis), dose: 0.5 mg/0.05 ml, or
- Pegaptanib (Macugen), dose: 0.3 mg in 90 ml
- Anti-VEGF improve the vision in 30–40% of cases and stabilize the vision in rest of the cases
- repeated injections are required at an interval of 1–3 months

- Although anti-VEGF therapy is the preferred strategy for the treatment of CNV, some patients may choose not to undergo an intravitreal procedure
- Other options include PDT, TPT, argon laser photocoagulation
- **Photodynamic therapy (PDT)** is the treatment of choice after anti-VEGF injections for subfoveal and juxtafoveal classic CNVM
- **Transpupillary thermotherapy (TTT)** with a diode laser (810 nm) may be considered for subfoveal occult CNVM. PDT is definitely better than TTT but is very expensive.
- **Double frequency and YAG 532 nm photocoagulation** may be used for extrafoveal choroidal neovascular membrane (CNVM)
- **Surgical treatment.** Submacular surgery to remove CNVM and macular translocation surgery are being evaluated.

Thank u!!!



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