



# **Diagnosticul diferential al cresterilor acute ale PIO**

**Şef.Lucrări Dr.Crenguţa Ioana Feraru**

**UMF “Gr.T.Popa” Iasi**

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## **Cresterea acuta a PIO → simptomatologie acuta:**

- **ochi rosu**
- **durere oculara**
- **↓ A.V.**
- **cefalee**

**!!! Este o urgenta oftalmologica →  
tratament adecvat → poate duce la pierderea  
ireversibila a vederii (distrugerea n.o.,  
accidente vasculare retiniene)**



# **Clasificare etiopatogenica**

- 1. G.U.I.**
- 2. Inflamatorie**
- 3. Legata de cristalin**
- 4. Traumatica**
- 5. Tumorală**
- 6. Iatrogenă**
- 7. Postoperatorie**

# Clasificare etiopatogenica

## 1. G.U.I.:

- GPUI – inchidere acuta
  - inchideri subacute
    - iris in platou
- GSUI – G.N.V.
  - bloc pupilar – iris bombé

# G.U.I.:- GPUJ – Inchidere acuta a unghiului camerular (AAG)

- Durere oculara, perioculara

- Cefalee intensa

- ↓marcata a AV

**! Conditii in care se declanseaza (intuneric, emotii)**

- Ochi rosu

- Edem cornean (epitelial)

- CA ingusta (Van Herick) + congener(0-2)

- Pupila in midriaza medie areflexa

- PIO ↑↑↑

- F.O. - Edem papilar

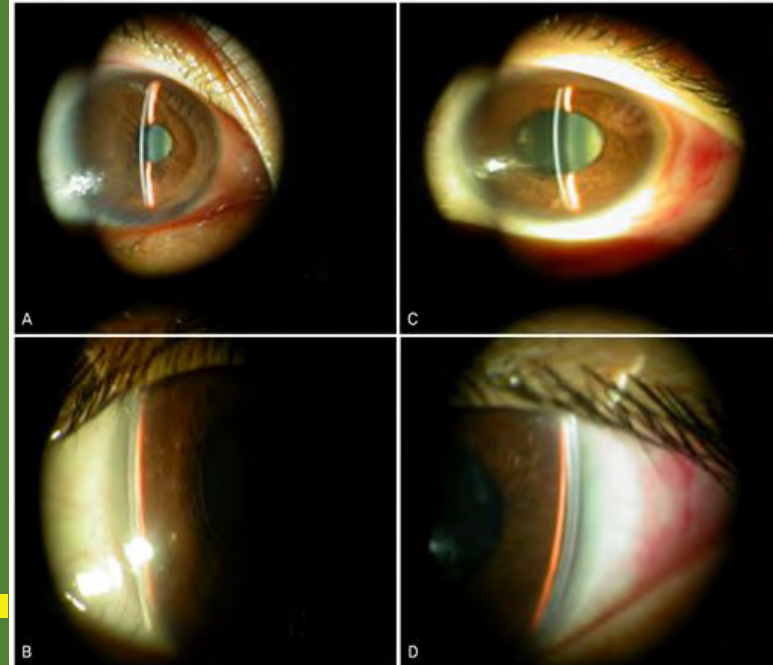


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- **CA ingusta (Van Herick) + congenita(0-2)**
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- PIO ↑↑↑
- F.O. - Edem papilar



# G.U.I.:- GPUI – Inchidere acuta a unghiului camerular (AAG)

## ! Trat in urgenta:

- hipotonizante sistemic (ederen, manitol)



- AI topic, pilocarpina topic



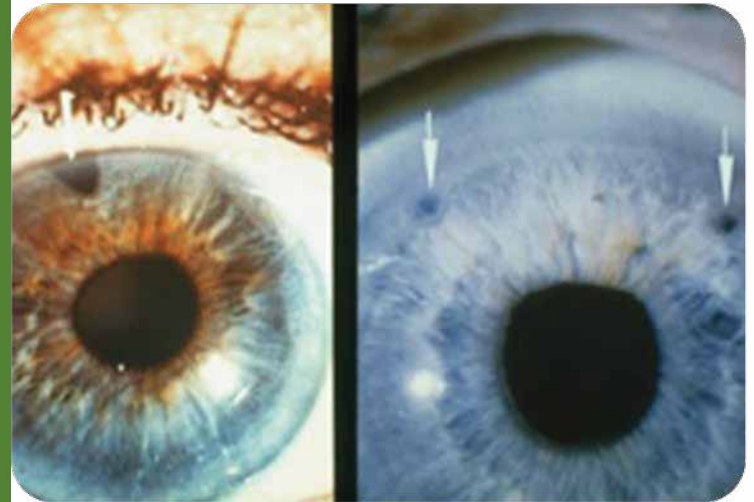
- gonioscopie + indentatie A.O.



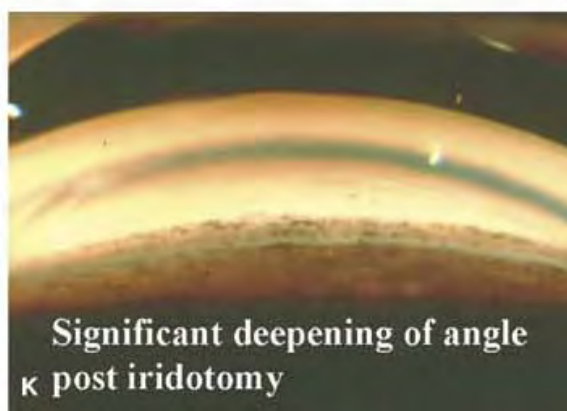
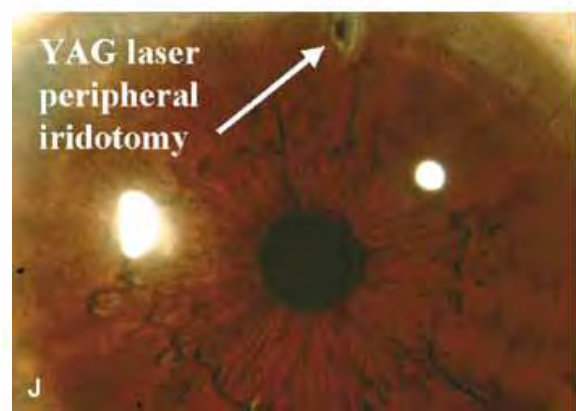
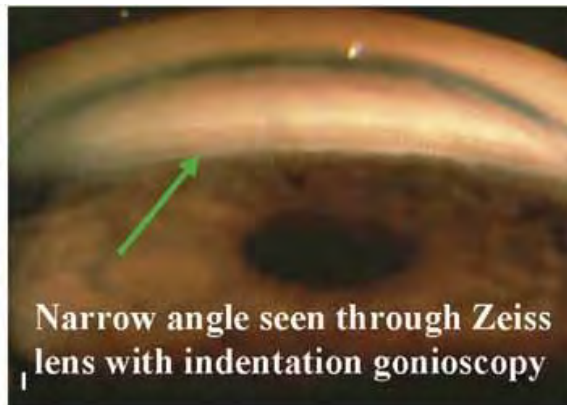
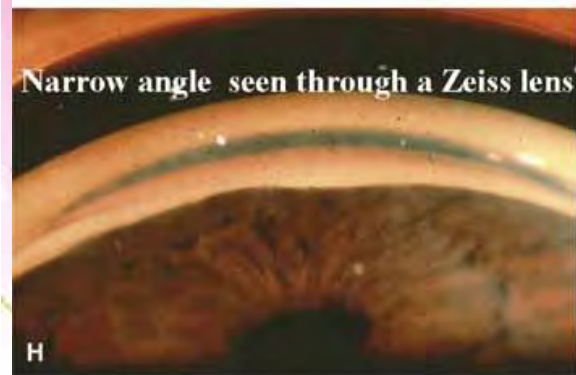
- IT laser/ Iridectomie chirurgical



- IT laser profilactica ochi congener



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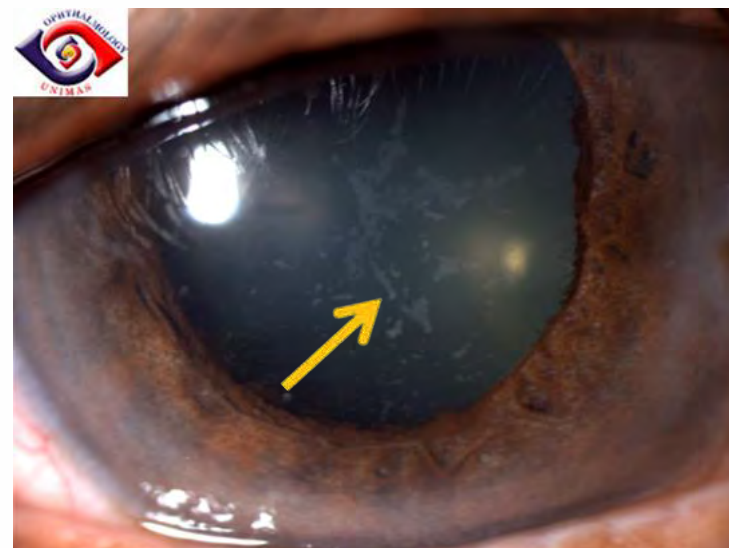
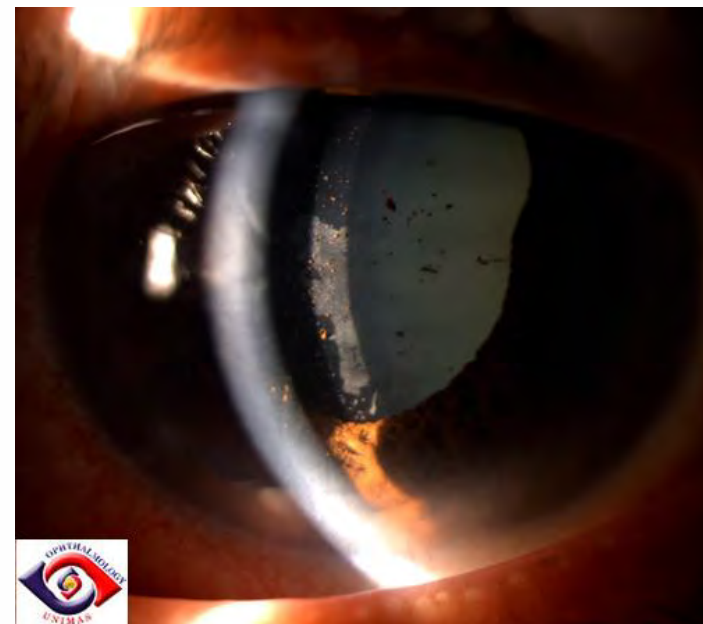




## G.U.I.:- GPUI – postatac acut

**Reducerea PIO dupa inchiderea acuta:**

- Edem cornean+ cute Descemetice
- Pigment+ flare in CA
- Atrofii iriene, SIP
- Pupila in midriaza fixa
- Glaukomflecken – necroza focala a epit.crist.



# G.U.I.: - GPUİ – Inchideri subacute a unghiului camerular

Episoade intermitente de Durere oculara, perioculara,  
Cefalee moderate

- ↓moderata a AV(incetosare), halouri colorate in jurul surselor luminoase

**! Conditile - (intuneric, emotii)**

- Episoadele se pot remite spontan in somn/ expunere la lumina mai intensa

± Ochi rosu

± Edem cornean (epitelial)

+ CA ingusta (Van Herick) + congener(0-2)

± Pupila in midriaza

+ PIO ↑↑

# G.U.I.: - GPUI – Inchideri subacute a unghiului camerular

## ! Diagnostic - Tratament:

- gonioscopie + indentatie A.O.



- hipotonizante sistemic (ederen ± manitol)



- pilocarpina topic , AI topic,



- IT laser/ Iridectomie chirurgical



- IT laser profilactica ochi congener

# G.U.I.:- GPU – IRIS in PLATOU

- conformatie particulara a irisului/c.ciliar (iris mai gros, inserat mai anterior, pozitie mai anterioara a c.ciliar)



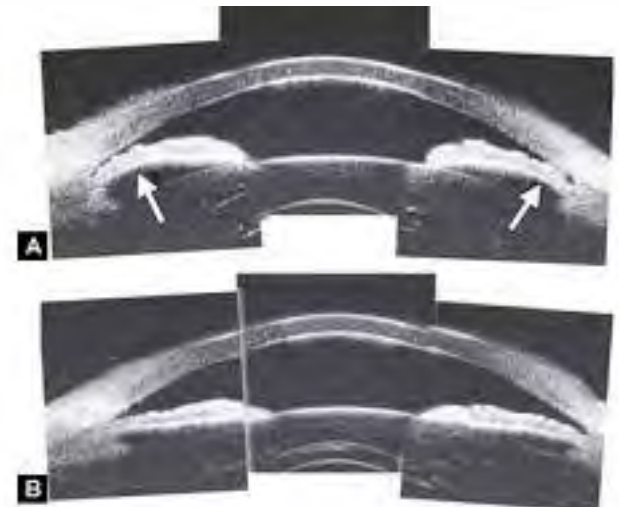
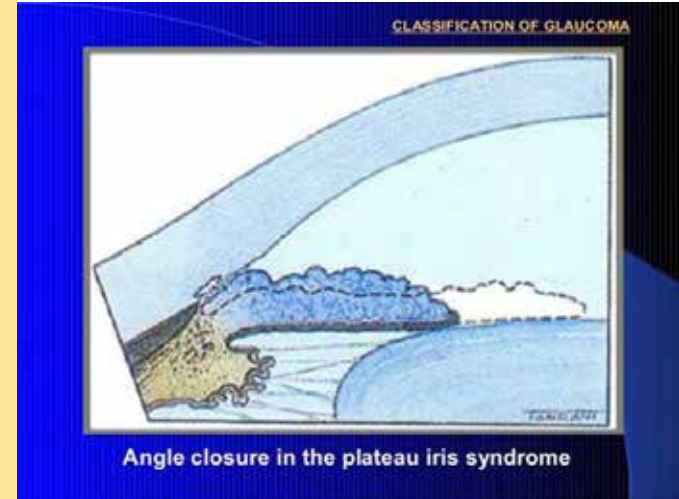
- Apozitia periferiei irisului la retea trabeculara; componenta de bloc pupilar minora



- Inchidere acuta / inchideri subacute

! Conditile - intuneric, emotii

! Varsta - tineri, sex feminin



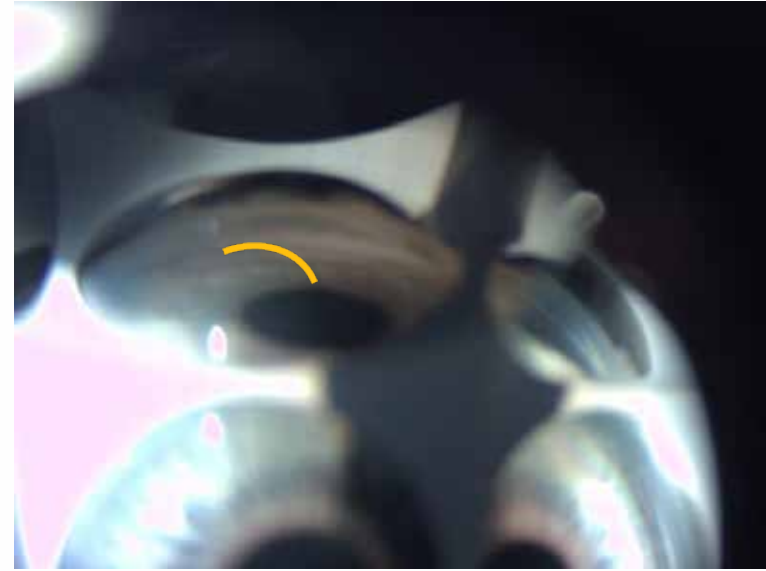
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- CA ingusta periferic dar profunda central
- Gonioscopia – esentiala in diagnosticul etiologic:
  - Unghi camerular inchis care se deschide la indentatie
  - Aspect de “dubla cocoasa” a irisului la indentatie
- Tratament:
  - IT laser → ALPI (iridoplastie periferica laser)



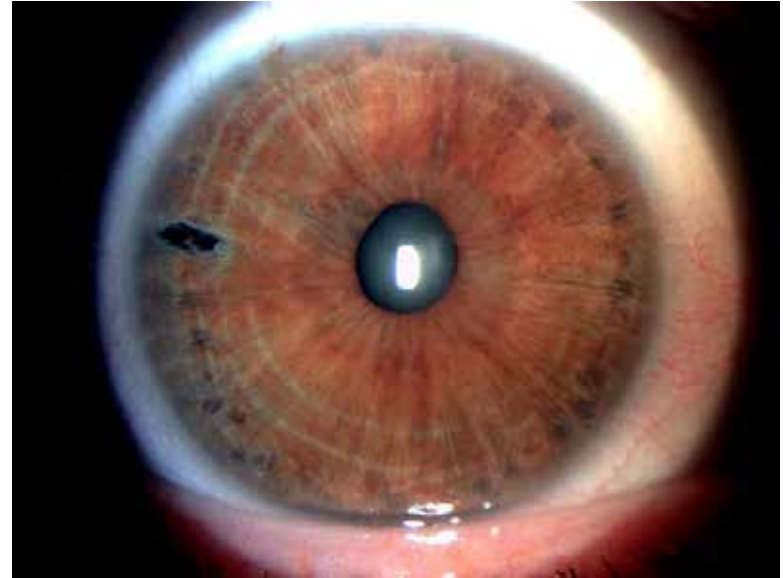
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# G.U.I.:- GSUI – G.N.V. – glaucom neovascular

- Inchiderea unghiului prin contractia membranei neovasculare → adesea simptomatologie acuta asemanatoare AAG

**! Contextul:D.Z. (RDP) sau istoric de accident vascular retinian – OVCR**

**(↓ AV≈ 3 luni anterior – “glaucom de 90 zile”)**

- Ochi rosu
- Edem cornean (epitelial)
- Pupila in midriaza medie areflexa
- **Rubeozis iridis**
- **PIO ↑↑↑**





# G.U.I.: GSUI – G.N.V. – glaucom neovascular

## Conduita terapeutica:

- hipotonizante sistemic (ederen, manitol)



CS topic



- Inj.i-V anti VEGF/ FC laser retiniana



- Trabeculectomie + antimetaboliti

**!! Evaluarea ochiului congener – risc cand exista patologie sistemica declansatoare**



# G.U.I.:- GSUI – bloc pupilar – iris bombé

**Obstrucția mișcării UA spre camera anterioară → apozitia temporară a irisului periferic la rețeaua trabeculară :**

- SIP (uveite, traumatisme)
- Pseudofakie (CA sau CP)/afakie (vitros)

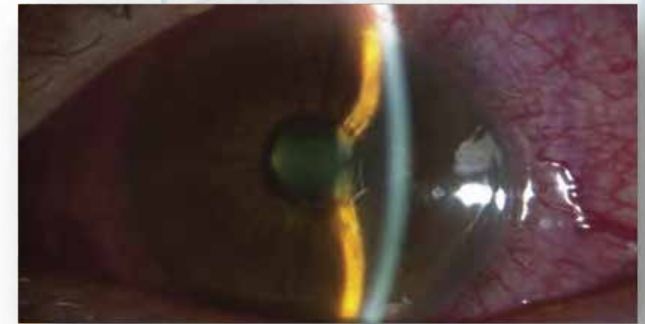
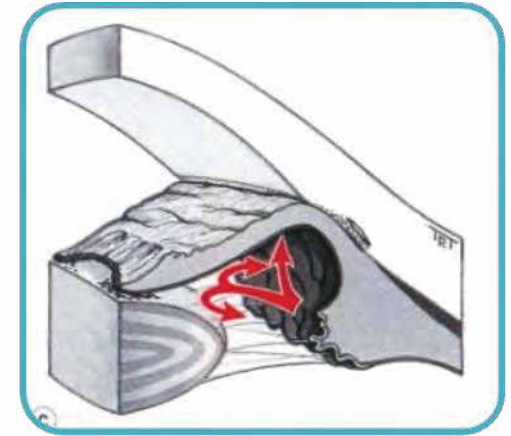
Dezvoltarea SIP extensive, circumferențial

↓  
*acumularea UA în camera posterioară*

↓  
*împingerea anterioară a irisului*

↓  
*iris bombé*

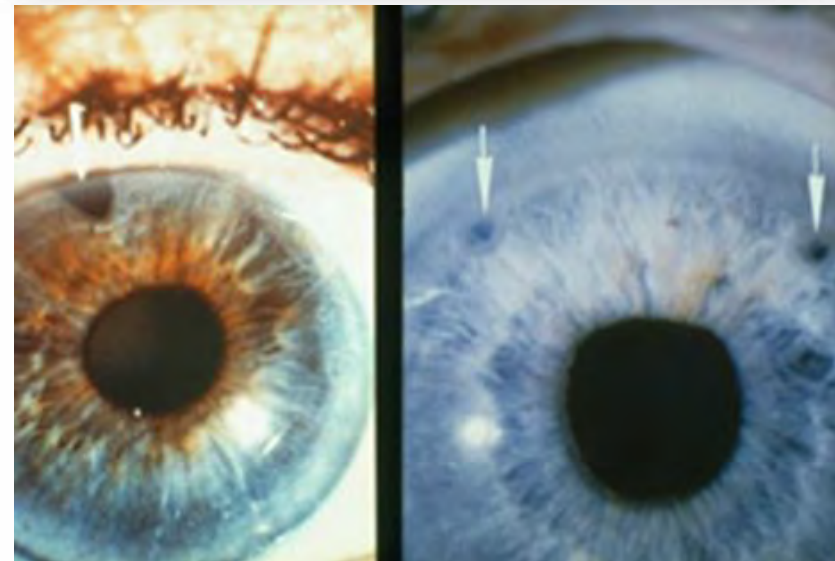
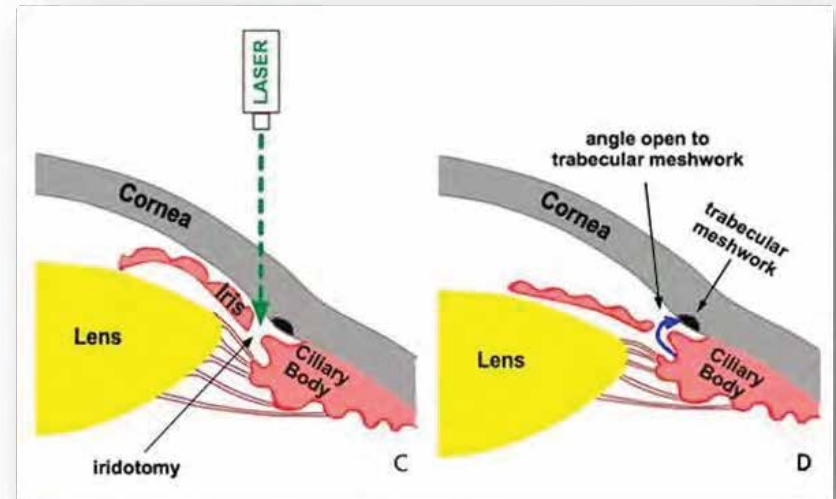
↓  
**creșterea brutală și importantă a PIO**



# G.U.I.:- GSUI – bloc pupilar – iris bombé

## Conduita terapeutica:

- Midriaza prompta
- Al topic + hipotonizante oculare
- IT laser/ chirurgicala periferica



# Clasificare etiopatogenica

## 2. Inflamatorie:

- Bloc pupilar – SIP – uveite
- uveite hipertensive ( herpetica, S.A.)
- Trabeculita
- sdr. Grant
- Sdr. Posner Schlossman
- Sdr. UGH

## 2. Inflammatorie – uveite hipertensive

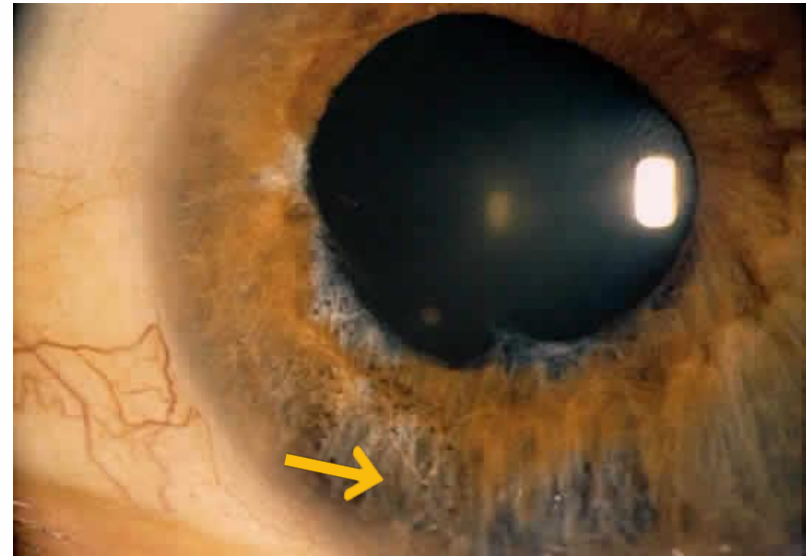
### Uveita cu Herpes Oftalmic:

- Hipoestezie corneana
- Infiltrate numulare+pp.keratice
- Atrofie iriana sectoriala, SIP
- 10-30% glaucom secundar

### Segmentita anterioara herpetica

- Keratita disciforma
- Uveita anterioara usoara
- PIO↑

### Uveita din S.A.



## 2.Inflamatorie – Trabeculita

- Infectia cu HSV a cel.endoteliale trabeculare



- Edemul – liza celulelor



- Blocarea drenajului UA

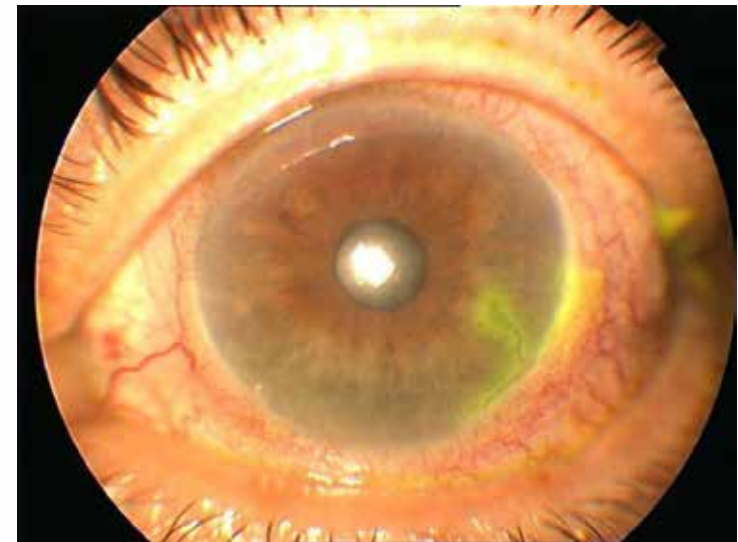
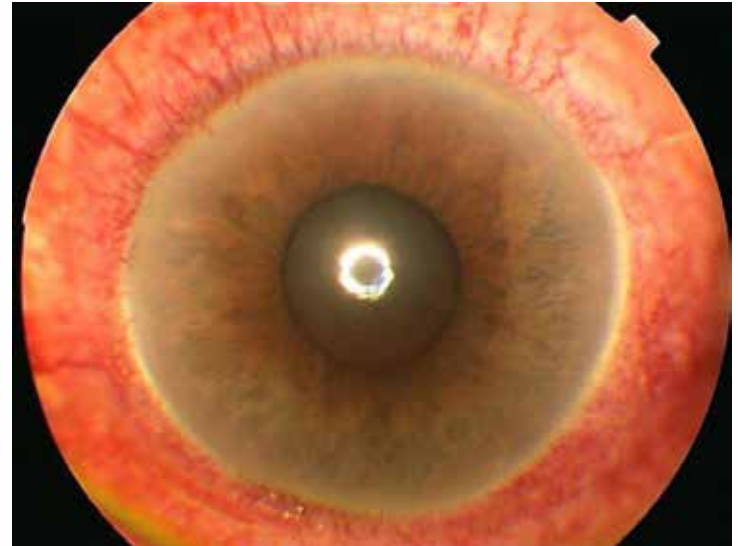
- Culturi pozitive pt. HSV in UA

- Raspunde favorabil la

Antiviral sistemic + CS topic

+ hipotonizante oculare

(acetazolamida)



## 2.Inflamatorie – Sdr. Grant

- Debut acut bilateral
- Pacienti <50 ani
- Adesea asimptomatic
- Pp. gri-galbui pe retea trabeulara - gonioscopie
- ↑ PIO discordanta cu cantitatea de precipitate
- Raspunde favorabil CS topic
- PIO revine la normal dupa ≈ 2 saptamani
- Dezvoltarea extensiva a PAS → ↑ cronica a PIO

## 2. Inflamatorie – Sdr. Posner-Schlossman

Boala tipic acuta, unilaterală – atacuri recurente de  $\uparrow$  PIO+ r. inflamatorie usoara in CA.

### Caracteristici:

**Unilateral**

**Recurent**

Discomfort usor/vedere incetosata

PIO  $\uparrow$  (40-50mmHg) + unghi deschis

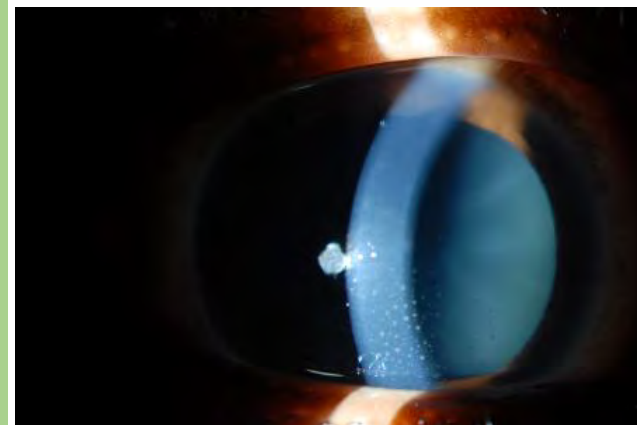
Reactie inflamatorie usoara a CA cu

pp.keratice, **NU SIP**

Durata crizei- ore-saptamani

PIO normala si fara semne de uveita intre atacuri

D.O. si CV normal





## 2. Inflammatory – Sdr. Posner-Schlossman

### Tratament:

- Controlul PIO: BB, IAC; de evitat PG!!
- Controlul inflamatiei: AISt AINS topic; AINS sistemic (indometacin)
- Tratament chirurgical – daca PIO nu poate fi controlata medicamentos si au aparut modificari papilo-perimetrice (TRAB + MMC)

Evolutia – benigna; educarea pacientului in identificarea simptomelor crizei

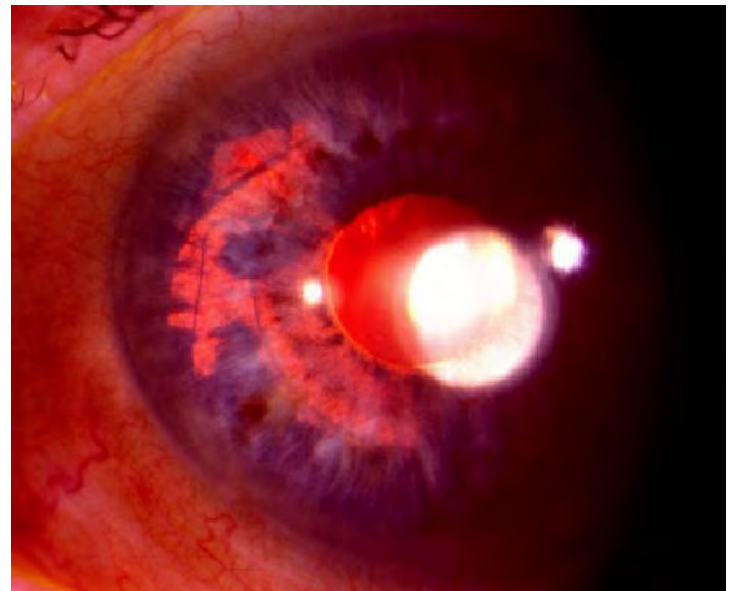
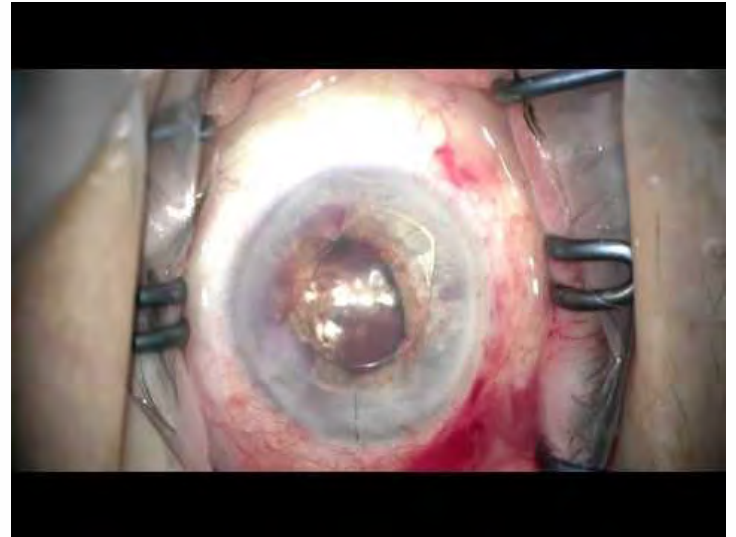


## 2.Inflamatorie – Sdr.UGH

Triada clinica ce apare ca o complicatie a chirurgiei cataractei cu IOL CA/ CP:

- **Inflamatie – pp.keratice**
- **Sangerare (microscopica/ macroscopica)**
- **↑ PIO**

Sdr. Single Piece – IOL CP  
monobloc plasat in sulcus

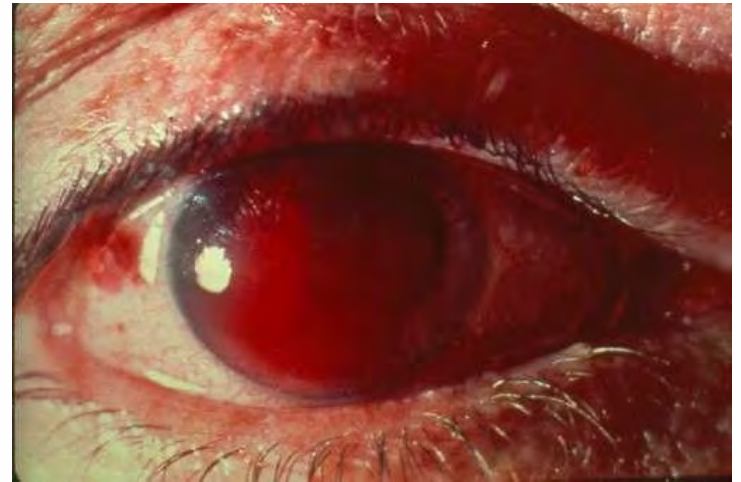
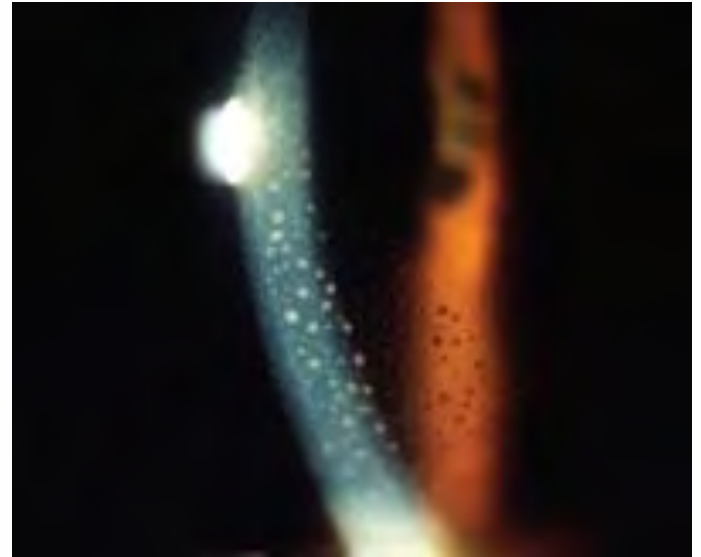


## 2.Inflamatorie – Sdr.UGH

**Debut >12 luni postop.**

### Tratament

- **conservator: AI topic , hipotonizant**
- **Daca uveita devine persistenta/ hemoragiile recurente/ PIO necontrolata → interventie chirurgicala (repozitionarea hapticelor/ explantarea/ inlocuirea cu un IOL multipiece/ sutura sclerala**



# Clasificare etiopatogenica

## 3. Legata de cristalin:

- glaucom facomorfic
- glaucom facolitic
- glaucom secundar prin particule cristaliniene
- microsferofakie
- dispersie pigmentara

### 3. Cristalin – Glaucom Facomorfic

#### GSU Inchis – intumescenta

cristalinului – debut acut

- Istoric de ↓ gradata a A.V.
- Poate fi confundat cu AAG (CA ingusta)



**!! Ochi congener** – CA profunda,  
gonioscopia unghi deschis

#### Tratament:

- ↓ PIO
- **Operatia de cataracta** – protectia endoteliului cristalinian



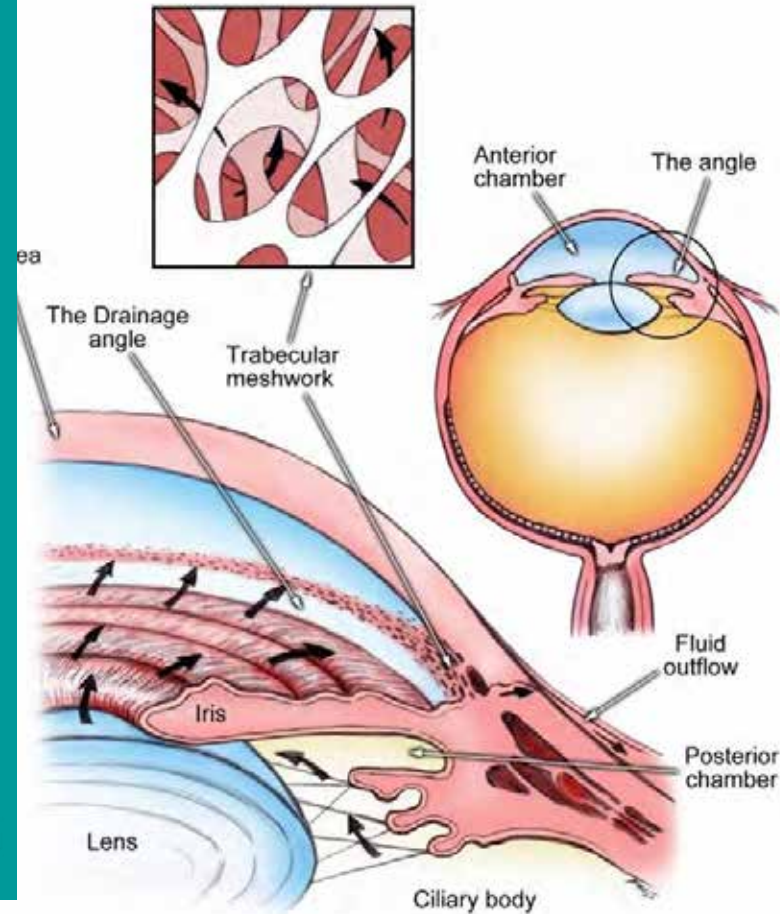
### 3.Cristalin – Glaucom Facolitic

GSU Deschis – cataracta hipermatura

(Morganiana) → migrarea proteinelor  
cristaliniene in UA → blocheaza  
trabeculul

- Istoric de ↓ gradata a A.V.

CA profunda, particule albe  
floteaza in UA → pseudohipopion



### 3.Cristalin – Glaucom Facolitic

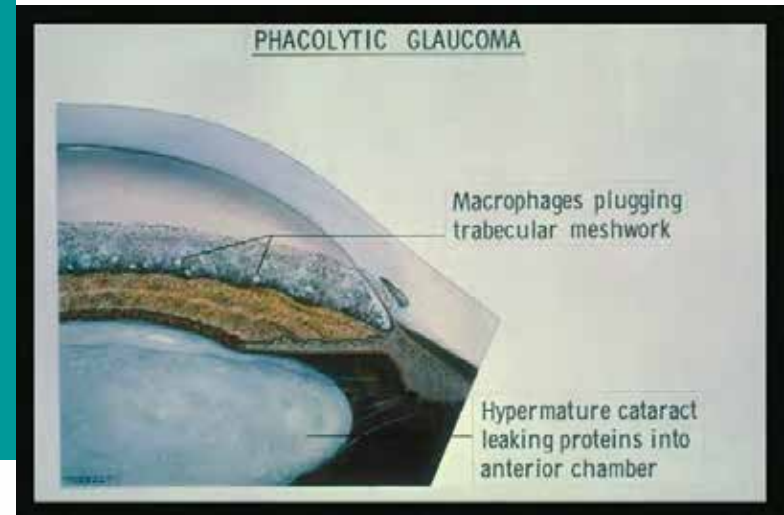
#### GSU Deschis –cataracta hipermatura

(Morganiana) → migrarea proteinelor cristalinene in UA → blocheaza trabeculul

- CA profunda, particule albe floteaza in UA → pseudohipopion

#### Tratament:

- ↓ PIO
- Operatia de cataracta



# 3.Cristalin – Glaucom prin particule cristaliniene

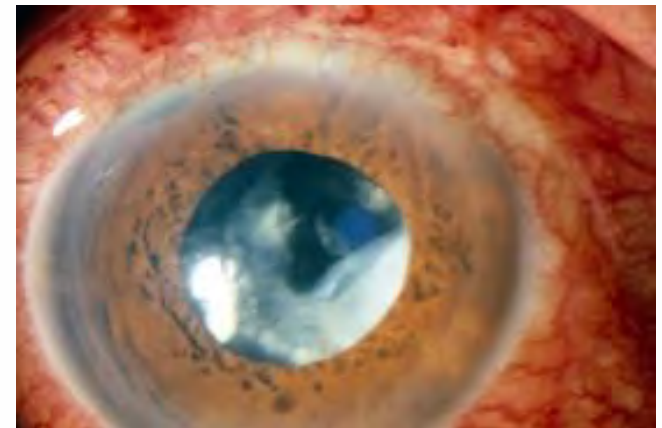
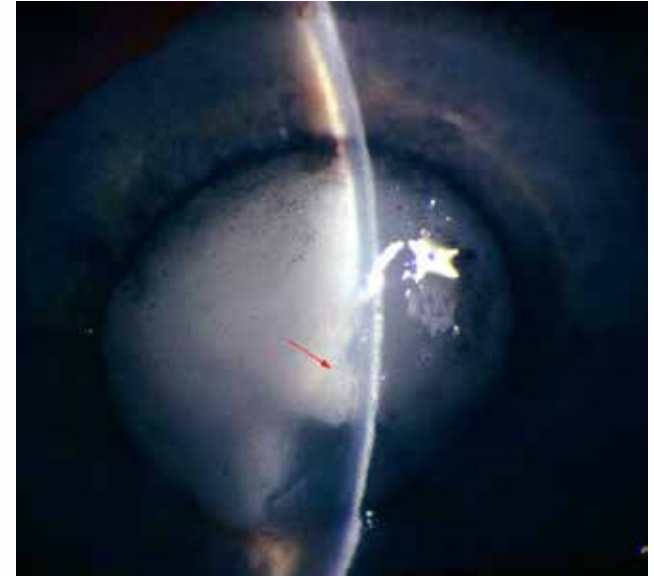
GSU Deschis – retentia de fragmente si debriuri cristaliniene ce blocheaza trabeculul

- **Traumatism – ruperea caps. Crist.**
- **Chirurgia cataractei – retentie de material crist./luxarea in vitros a unor fragmente de cristalin**

## Clinic:

- Durere oculara, ochi rosu
- ↑ PIO
- Particule cristaliniene in CA/ UA

Trat: extractia crist./material restant





### 3.Cristalin – Glaucom prin particule cristaliniene

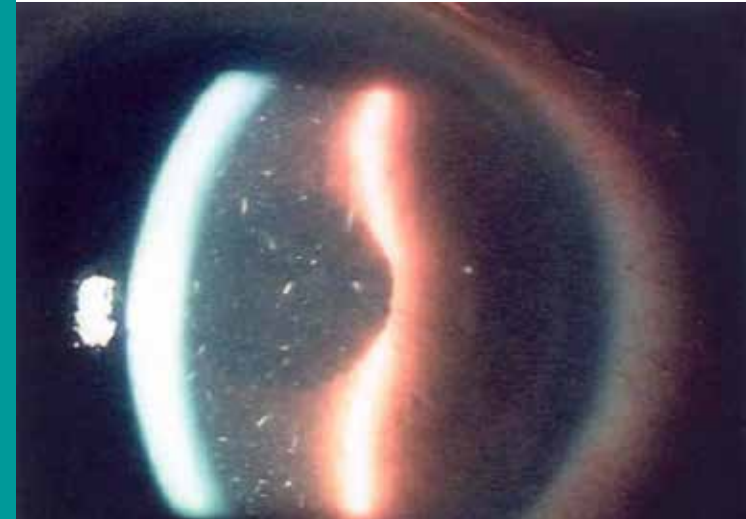
GSU Deschis – retentia de fragmente si debriuri crist. ce blocheaza trabeculul

- luxarea in vitros a unor fragmente de cristalin

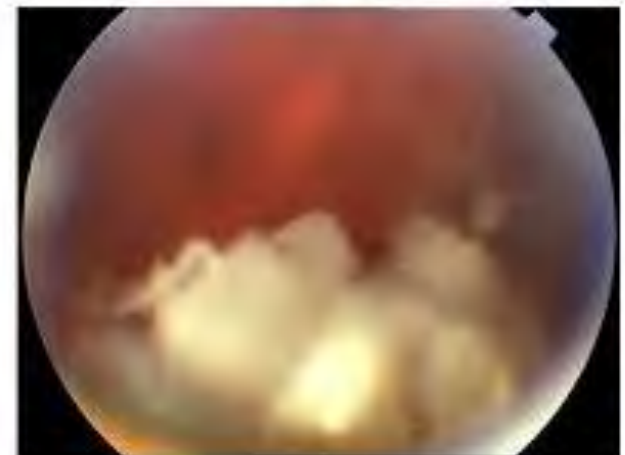
#### Clinic:

- Durere oculara, ochi rosu
- Pacientul vede umbre mobile
- Particule cristaliniene in CA/UA
- Fragmente albe de material crist. in cavitatea vitreana

Trat: extractia material crist. restant din cavitatea vitreana - VTpp



Dropped Lens Material



## 3.Cristalin – Microsferofakie

### GSU Inchis – **blocaj pupilar**

- Afectiune bilaterala
- Izolata/ afectiuni sistemice (Weill Marchesani, Peters, Marfan, Lowe)

### Clinic:

- Durere oculara, ochi rosu – AAG
- Accentuat de miotice (CI)
- **Ameliorata de cicloplegice**

### Trat:

- **Cicloplegice** → tensiunea zonula
- IT laser
- **Extractia cristalinului**



### 3. Cristalin – Dispersie pigmentara

**Eliberarea de pigment irian in UA ←  
contactului irido-zonular**

- Tineri (30-40 ani), miopi
- Profil irian concav

#### Clinic:

- Cornee – fus Kruckenberg
- Iris – defecte de transiluminare perif.
- Gonioscopie – trabecul intens pigm.
- Cristalin – inel Zentmayer



## 3. Cristalin – Dispersie pigmentara

**Eliberarea de pigment irian in UA ←  
contactului irido-zonular**

### Clinic:

- Simptomatologie nespecifica –  
fluctuatii de vedere, cefalee episodica
- Accidental se pot identifica PIO↑

### Trat:

- Miotice
- IT laser periferica
- trat,. - GUD





# **Clasificare etiopatogenica**

## **4. Traumatica:**

- hiphema**
- dislocarea cristalinului**

## 4. Traumatic - Hiphema

Hiphema → blocajul rețelei trabeculare  
cu eritrocite

- orice hiphema necesita urmarire stricta  
→ rezolutia sangerarii

- Poate masca o iridodializa



- Gonioscopie – (evaluarea leziunilor  
angulare (recessus angular → risc  
de ↑ tardiva a PIO cand exista  
recessus  $>270^{\circ}$ ) – A.O. comparativ

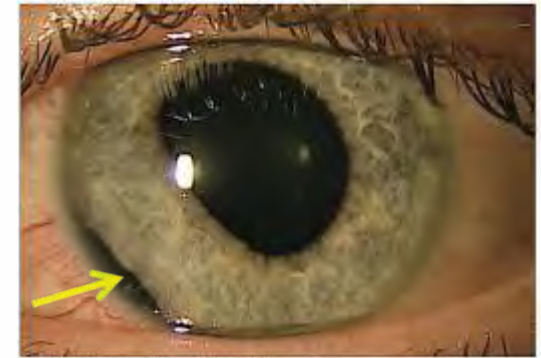
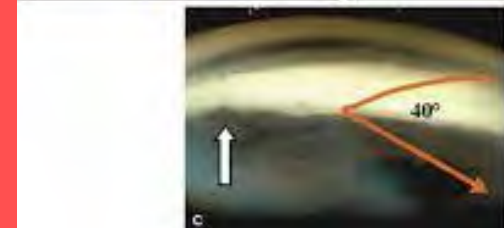
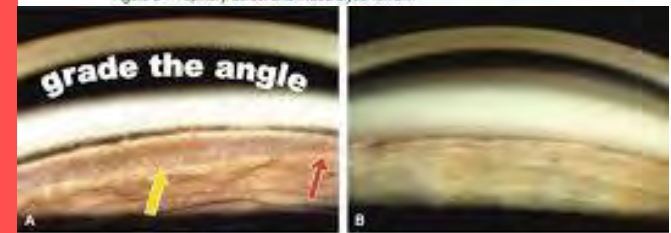


Figure 2 – Pupillary defect and iridodialysis remain.



## 4. Traumatic - Hiphema

**Hiphema** → blocajul rețelei trabeculare  
cu eritrocite

- orice hiphema necesita urmarire stricta  
→ rezolutia sangerarii
- Poate masca o iridodializa

### **Tratament:**

- repaus (risc de resangerare 3-5 zile)
- ↓ PIO (IAC, BB)
- CS topic ± midriatice (comp. uveitica)
- Lavajul CA – PIO >50mmHg 2 zile

↓  
SPA; hematocornee

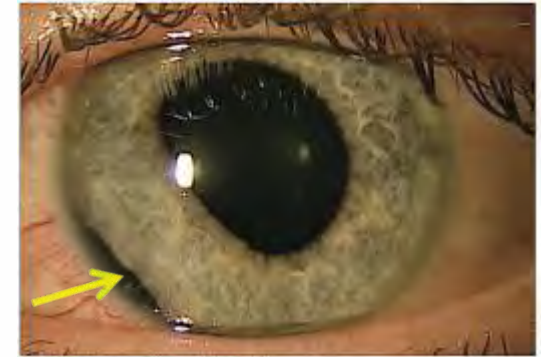
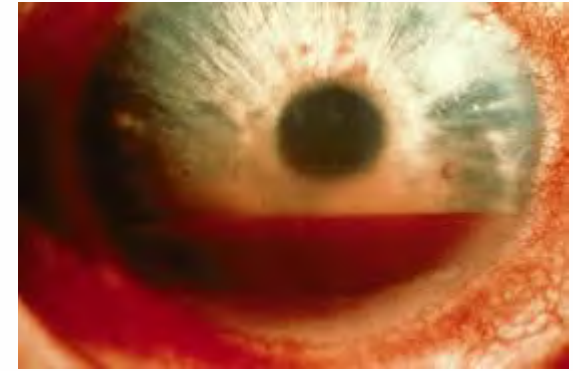
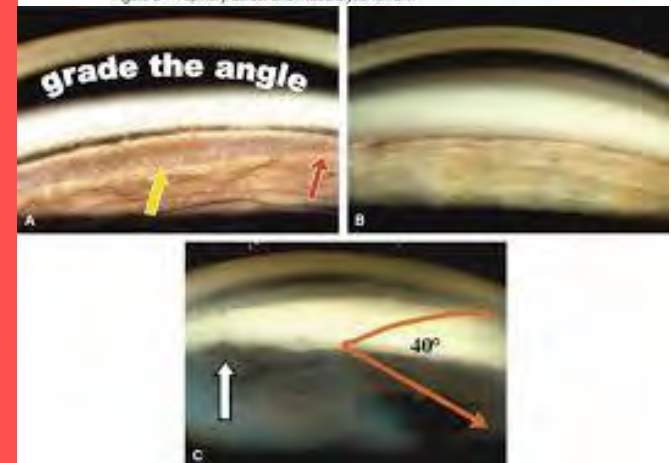


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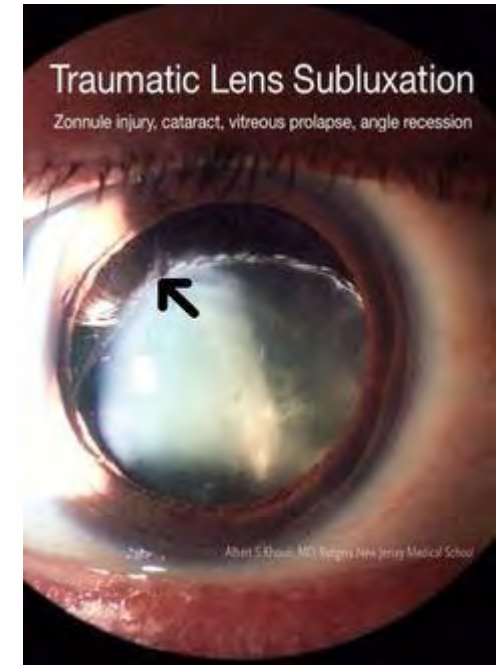


## 4. Traumatic – Dislocarea cristalinului

Subluxatia → bloc pupilar (cristalin, prolaps vitrean) → ↑ PIO

Luxatia – in CA → contact cu corneea

Luxatia posterioara– in vitros → ↑ PIO prin prolaps vitrean in CA





## 4. Traumatic – Dislocarea cristalinului

Tratament: ↓ PIO (IAC, manitol), AI →

tratament chirurgical

1. **Subluxatie** - se poate temporiza →  
remisia inflamatiei ; abord anterior/  
VTpp
2. **Luxatia posterioara** – mai bine  
tolerata (capsula cristaliniana  
intacta) - VTpp
3. **Luxatia anterioara !!** Urgenta  
chirurgicala → risc de  
decompensare corneana



Corectia afakiei



# Clasificare etiopatogenica

**5. Tumorală:** 5% tumorile intraoculare dezvoltă  
secundar ↑ PIO – poate fi prima manifestare clinică

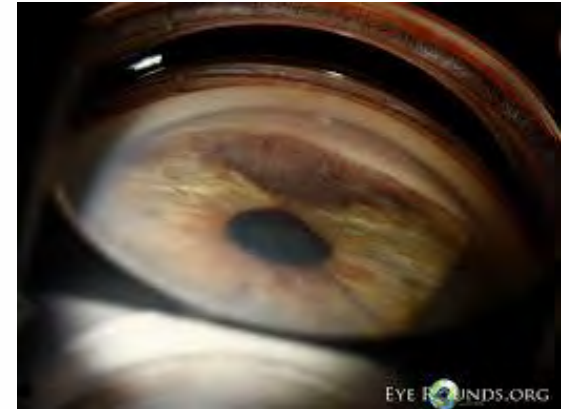
- blocaj trabecular
- GSU închis

## 3.Tumoral – blocaj trabecular

Tumori solide - invadarea directa a trabeculului de catre celulele neoplazice

- **Melanom primar**
- **Tumori metastatice**
- **rar retinoblastom**

Glaucom melanomalitic: - blocarea trabeculului de catre macrofage ce au inglobat pigment si celule tumorale ≈ gl.facolitic (unele forme de melanom irian)



## 3.Tumoral – GSUI

### Glaucom Neovascular - cel mai

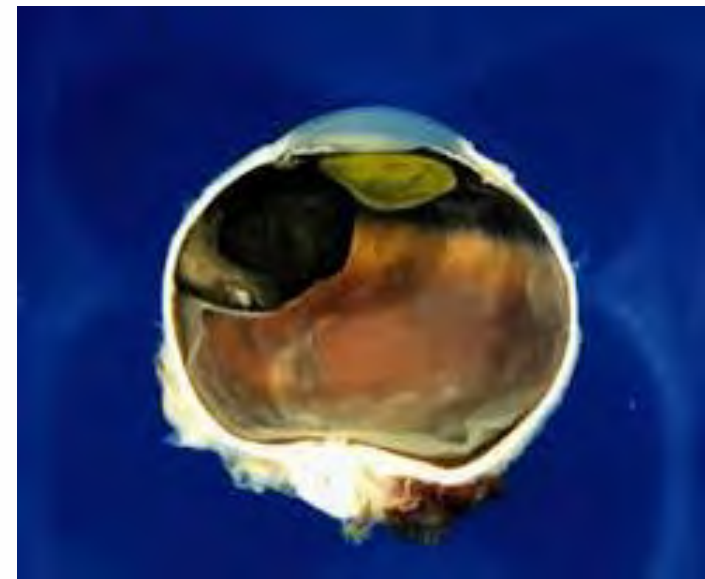
frecvent mecanism in

- **MMC**
- **Retinoblastom**

### Deplasarea anterioara a diafragmului

### irido-cristalinian:

- Tumori de corp ciliar
- Tumori mari din segmentul posterior



# Clasificare etiopatogenica

## 6. Iatrogena:

- Corticosteroizi
- Inchidere acuta a unghiului  
camerular

## 6. Iatrogena – Corticosteroizi

↑ PIO - creșterea rezistenței la scurgere trabeculară.

Grupe de risc

- GPUD, miopi
- DZ
- Varsta foarte tânără/batrâni
- Boli de țesut conjunctiv

Tipuri de steroizi:

- Topic (colir, unguent)
- Periocular (subconjunctival, subtenonian)
- Intravitrean
- Dermatologic (dermatita atopică)
- Sistemic (oral, i-v, inhalator - mai rar)



## 6. Iatrogena – Inchidere acuta a unghiului camerular

Medicatie topica / sistemica → dilatarea pupilei:

**Oftalmologice** – midriatice, cicloplegice

**ORL** – bronhodilatatoare, medicatie simptomatica pentru raceala

**Psihiatrice** – antidepresive triciclice, antiparkinson

**Anestezie** – miorelaxante, PS-litice, S-mimetice



# Clasificare etiopatogenica

## 7. Postoperatorie:

- Chirurgia cataractei
- Chirurgia vitreo-retiniana
- Chirurgia laser oculara
- Chirurgia glaucomului



## 7. Postoperatorie – Cataracta

**Conditii postoperatorii asociate cu  $\uparrow$ PIO:**

**Rest de material vascoelastic** – risc mai mare in Gl.preexistent (PSX)

**TASS** – r. acuta inflamatorie postoperatorie, noninfectioasa – adesea dupa chir. necomplic. a cataractei:

- Edem cornean difuz (din limb in limb)
- Lezarea trabeculului – PAS - PIO $\uparrow$
- inflamatie fibrinoasa in CA (hipopion)
- Midriaza fixa in evolutie

**Trat. – CS doze mari**

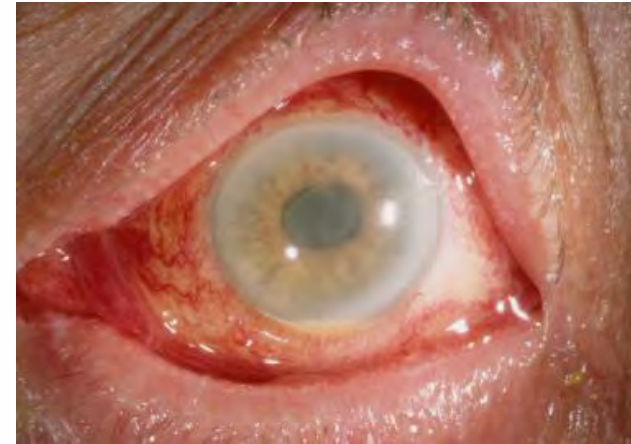


Figure 2. Atrophic iris with dilated, slightly irregular pupil.

## 7. Postoperatorie – Cataracta

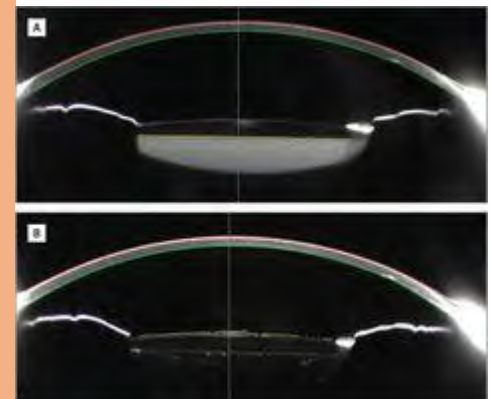
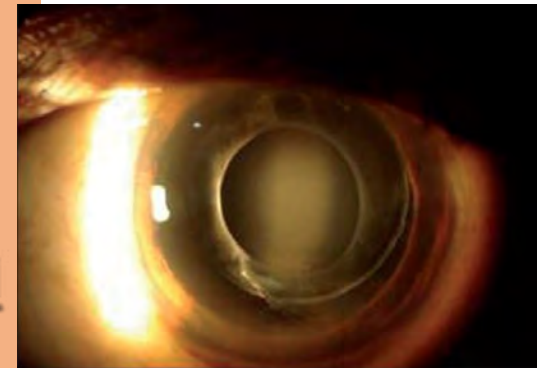
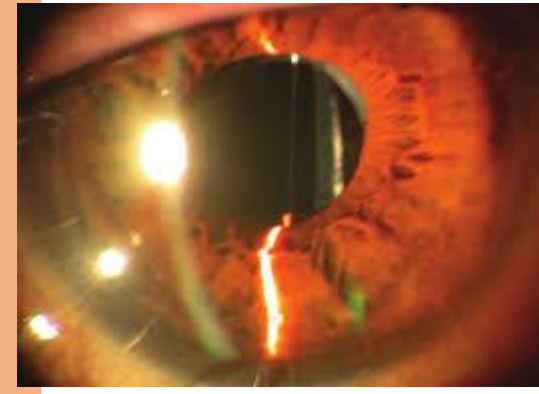
### **Sdr. Distensie capsulara postoperator:**

- **Precoce**(1zi – 2 sapt.) – acumularea de **vascoelastic in sac** → impingerea IOL ant → **shift miopic refractiv** + spatiu mare intre IOL si CP

Trat: - capsulotomie ant. +post. laser YAG

- **Tardiv**: - acumularea in sac a unui **fluid turbid**  
– metaplazia celulelor epiteliale reziduale –  
produc collagen +matrice extracel.ce se  
acumuleaza in sac

Trat: - capsulotomie post. laser YAG



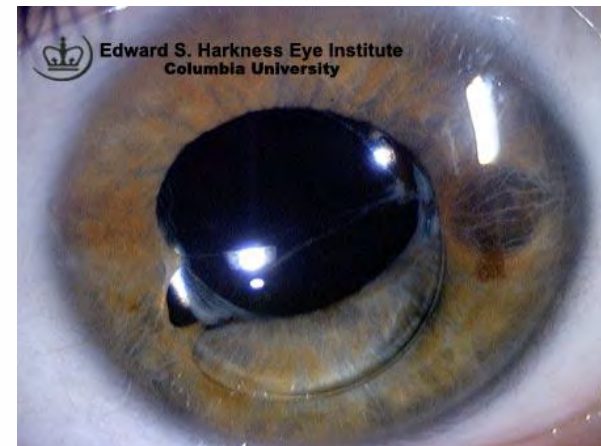
## 7. Postoperatorie – Cataracta

Conditii postoperatorii asociate cu  $\uparrow$ PIO:

**Bloc pupilar : iris bombe**

- EEC/ EIC + prolaps vitrean – VT ant –  
s-a omis Iridectomia Periferica
- Captura pupilara a opticei IOL

Trat: IP laser/chirurgical; repositionarea opticei  
IOL



## 7. Postoperatorie – Chirurgia V-R

### Tamponament cu gaz – expansiune

sclerala/ bloc pupilar

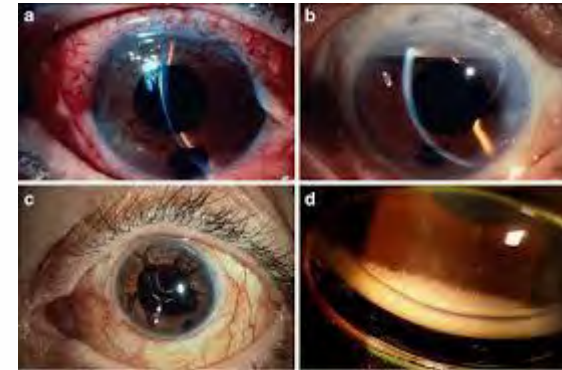
Trat. – plasarea pac. cu fata in jos,  
hipotonizante oculare, paracenteza CA

### Tamponament cu ulei de silicon

- bloc pupilar
- Blocarea CA bula de ulei de silicon
- Ulei silicon emulsificat in CA

### Trat.

- Iridectomie periferica inferior
- Hipotonizante oculare
- Indepartarea uleiului de silicon
- Chirurgie filtranta/ SAD



## 7. Postoperatorie – Chirurgia V-R

Conditii postoperatorii asociate cu  $\uparrow$ PIO:

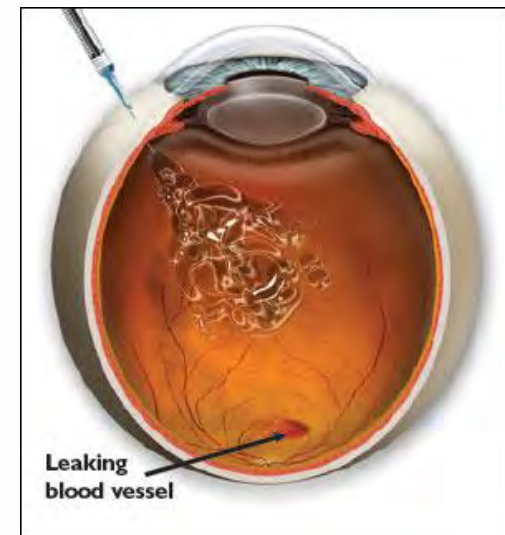
### Injectii intravitreene

- CS
- antiVEGF

Trat. – monitorizarea stricta a PIO dupa injectie

- Hipotonizante (supresanti ai secretiei UA)  
topic/ sistemic

Intra-vitreous steroid injection



## 7. Postoperatorie – Chirurgia laser

Conditii postoperatorii asociate cu  $\uparrow$ PIO:

Iridotomia laser periferica

ALT/ SLT

ALPI - iridoplastia periferica

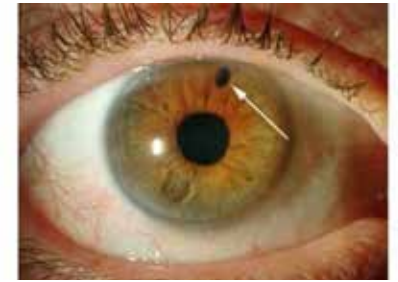
Capsulotomia posterioara YAG laser

Trat. – monitorizarea stricta a PIO +

- AI topic

- Hipotonizante (supresanti ai secretiei UA)

topic/ sistemic



# 7. Postoperatorie – Chirurgia glaucomului

**Conditii postoperatorii + PIO↑:**

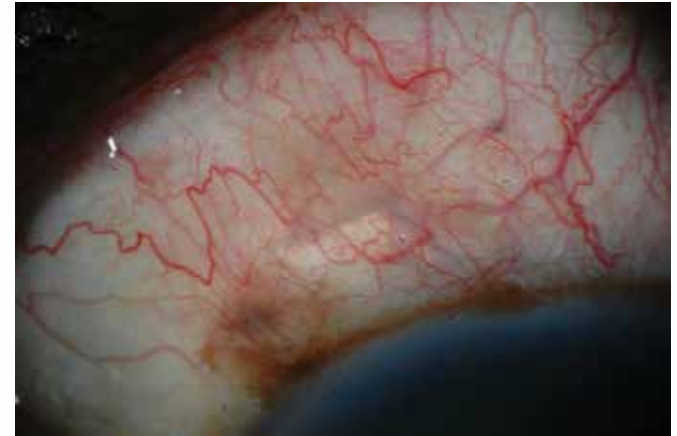
**CA prezenta – esecul precoce a filtrantei**

- Bula de filtratie absenta
- Trat. – masaj, injectii adjuvante 5-FU, revizia filtrantei

**CA ingusta/ absenta – glaucom malign**

- **Deplasarea anterioara a diafragmului irido-cristalinian**

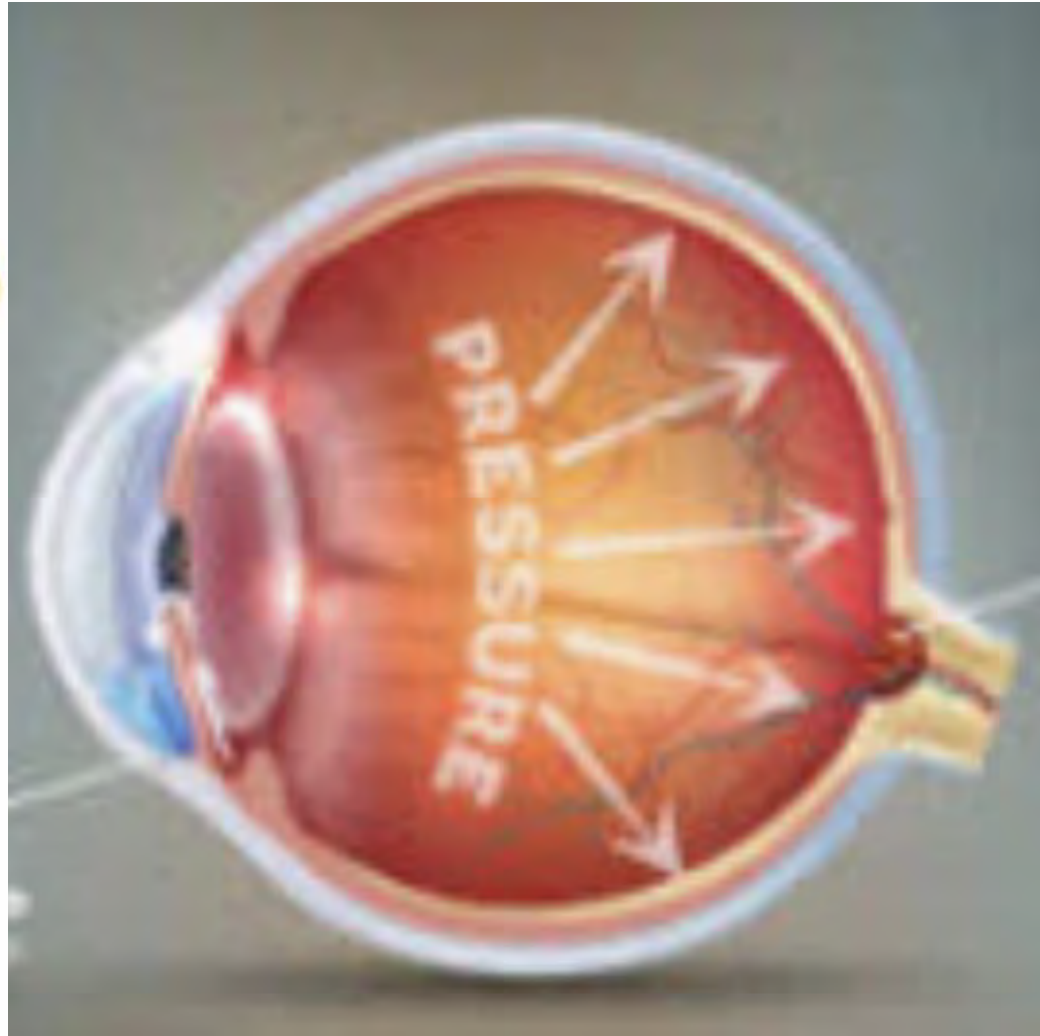
Trat. – cicloplegice, hipotonizante sistemic, hialoidotomie , VTpp



# Concluzii

- **Istoricul** minutios al evolutiei simpt. + contextul aparitiei – **1 cheie dg.corect**
- **Gonioscopia** – **a 2-a cheie a dg.** → element ce conditioneaza alegerea deciziei terapeutice
- **Monitorizarea PIO** dupa interventii chirurgicale cu potential cunoscut de cresteri ale PIO
- **Varsta tanara** – nu trebuie sa fie o motivatie pentru excluderea evaluarii PIO/ FO la simptome uneori minore si aparent nespecifice





*Vă mulțumesc!*