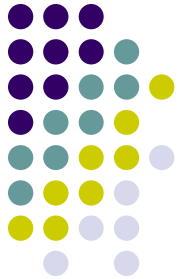


Before you begin: This is a big topic, and big topics beget big slide-sets. There's a natural break around the halfway mark (slide 160ish); I placed a *break time!* slide at that point to mark it.

Q

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ [%] of the population

A

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ 10% of the population

Q

Choroidal Nevus vs Melanoma

- **Choroidal nevi** are found in ~ 10% of the population

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…
Color?

A

Choroidal Nevus vs Melanoma

- **Choroidal nevi** are found in ~ 10% of the population

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…
Color? **Gray-brown**

Choroidal Nevus vs Melanoma

Choroidal nevus: Typical color

Q

Choroidal Nevus vs Melanoma

- **Choroidal nevi** are found in ~ 10% of the population

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…

~~*Color?* **Gray brown**~~ Amelanotic?

Can choroidal nevi be amelanotic?

A

Choroidal Nevus vs Melanoma

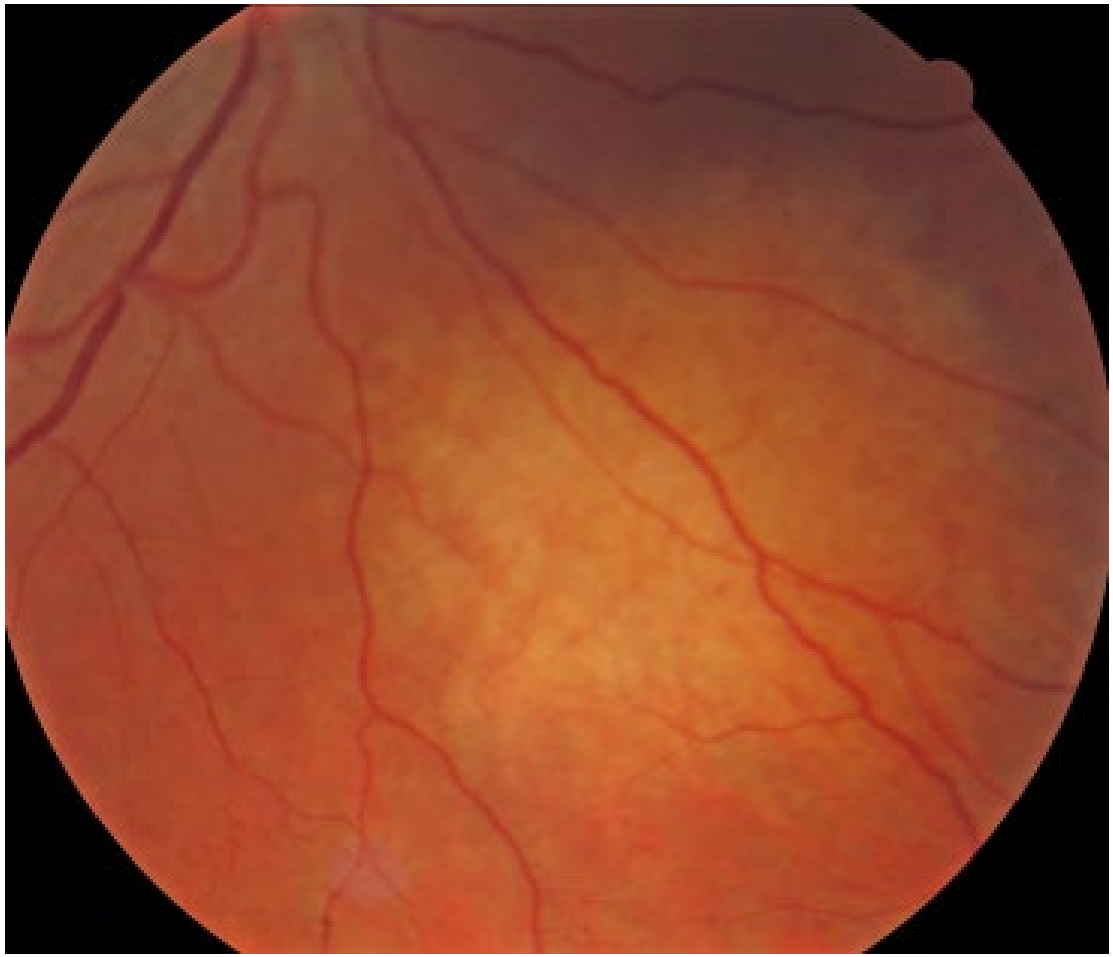
- **Choroidal nevi** are found in ~ 10% of the population

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…

~~*Color?* **Gray brown**~~ *Amelanotic? Yes!*

Can choroidal nevi be amelanotic?
Yes

Choroidal Nevus vs Melanoma



Choroidal nevus: Amelanotic

Q

Choroidal Nevus vs Melanoma

- **Choroidal nevi** are found in ~ 10% of the population

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…
Color? **Gray-brown**
Margins?

A

Choroidal Nevus vs Melanoma

- **Choroidal nevi** are found in ~ 10% of the population

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…
Color? **Gray-brown**
Margins? **Indistinct**

Choroidal Nevus vs Melanoma

Choroidal nevus: **Indistinct margins**

Q

Choroidal Nevus vs Melanoma

- **Choroidal nevi** are found in ~ 10% of the population

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…
Color? **Gray-brown**
Margins? **Indistinct**
Elevation?

A

Choroidal Nevus vs Melanoma

- **Choroidal nevi** are found in ~ 10% of the population

What is the ophthalmoscopic appearance of a typical choroidal nevus with respect to…
Color? **Gray-brown**
Margins? **Indistinct**
Elevation? Flat (or only minimally elevated)

Q

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ 10% of the population
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant?

A

Choroidal Nevus vs Melanoma

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Choroidal Nevus vs Melanoma

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  - Virtually all lesions < mm thick are benign nevi

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- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of color pigmentation

A

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- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of orange pigmentation

Choroidal Nevus vs Melanoma

Choroidal melanoma with orange pigment and subretinal fluid

Choroidal Nevus vs Melanoma

Choroidal melanoma with orange pigment

Q

Choroidal Nevus vs Melanoma

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- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of **orange** **pigmentation**

What is the name of the orange-pigmented substance?

A

Choroidal Nevus vs Melanoma

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  - Presence of **orange** **pigmentation**

What is the name of the orange-pigmented substance?
Lipofuscin

Q

Choroidal Nevus vs Melanoma

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What is the name of the orange-pigmented substance?
Lipofuscin

Why is it worrisome?

A

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  - Presence of **orange** **pigmentation**

What is the name of the orange-pigmented substance?
Lipofuscin

Why is it worrisome?
It indicates the lesion is actively growing

Q

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  - Virtually all lesions > 3 mm thick are melanomas
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of orange pigmentation
  - Absence of common DFE finding

A

Choroidal Nevus vs Melanoma

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- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen

Q

Choroidal Nevus vs Melanoma

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That the absence *of drusen is worrisome for melanoma suggests that the* presence *of drusen is the opposite, ie, that drusen are a reassuring finding. Is this the case?*

less

ign

ke you

- **Absence of drusen**

A

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- Choroidal nevi are found in ~ 10% of the population
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*
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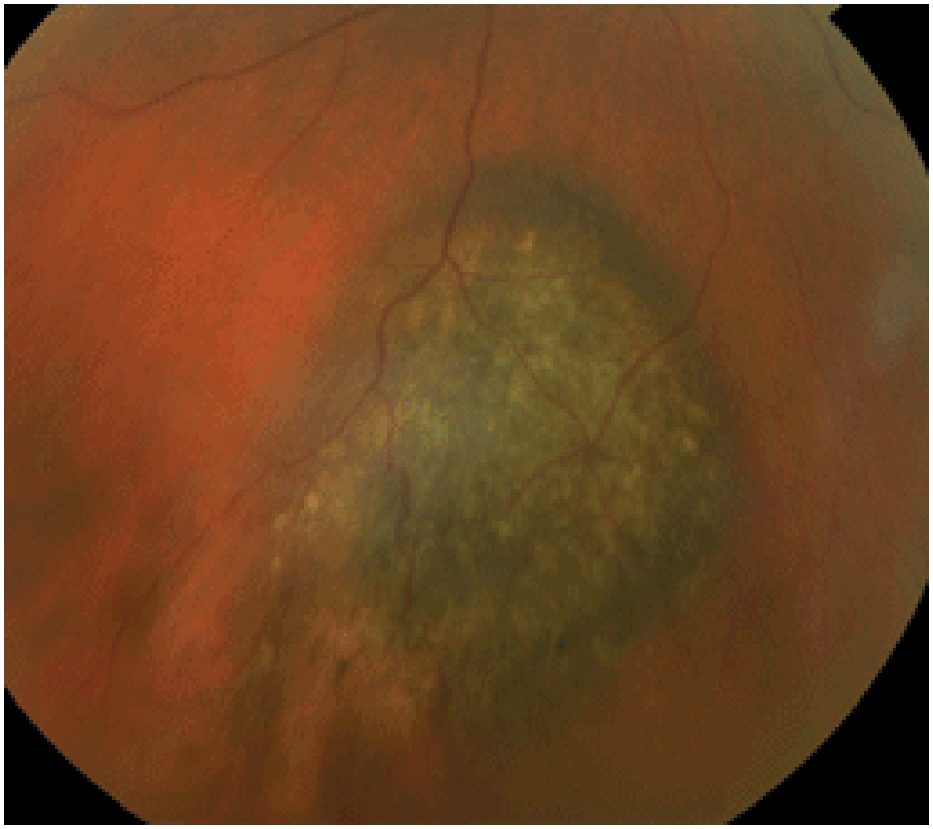
Indeed it is

less
ign
ke you

- **Absence of drusen**

Choroidal Nevus vs Melanoma



Choroidal nevus with drusen

Q

Choroidal Nevus vs Melanoma

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- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*
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That the absence *of drusen is worrisome for melanoma suggests that the* presence *of drusen is the opposite, ie, that drusen are a reassuring finding. Is this the case?*
Indeed it is

Why is the presence of drusen suggestive that a melanocytic lesion is benign?

- **Absence of drusen**

A

Choroidal Nevus vs Melanoma

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- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*
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That the absence *of drusen is worrisome for melanoma suggests that the* presence *of drusen is the opposite, ie, that drusen are a reassuring finding. Is this the case?*
Indeed it is

Why is the presence of drusen suggestive that a melanocytic lesion is benign?
It indicates the lesion is chronic—that it's been around a long time

- **Absence of drusen**

Q

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ 10% of the population
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- Lesion thickness and malignancy:
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  - Virtually all lesions > 3 mm thick are melanomas
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal

A

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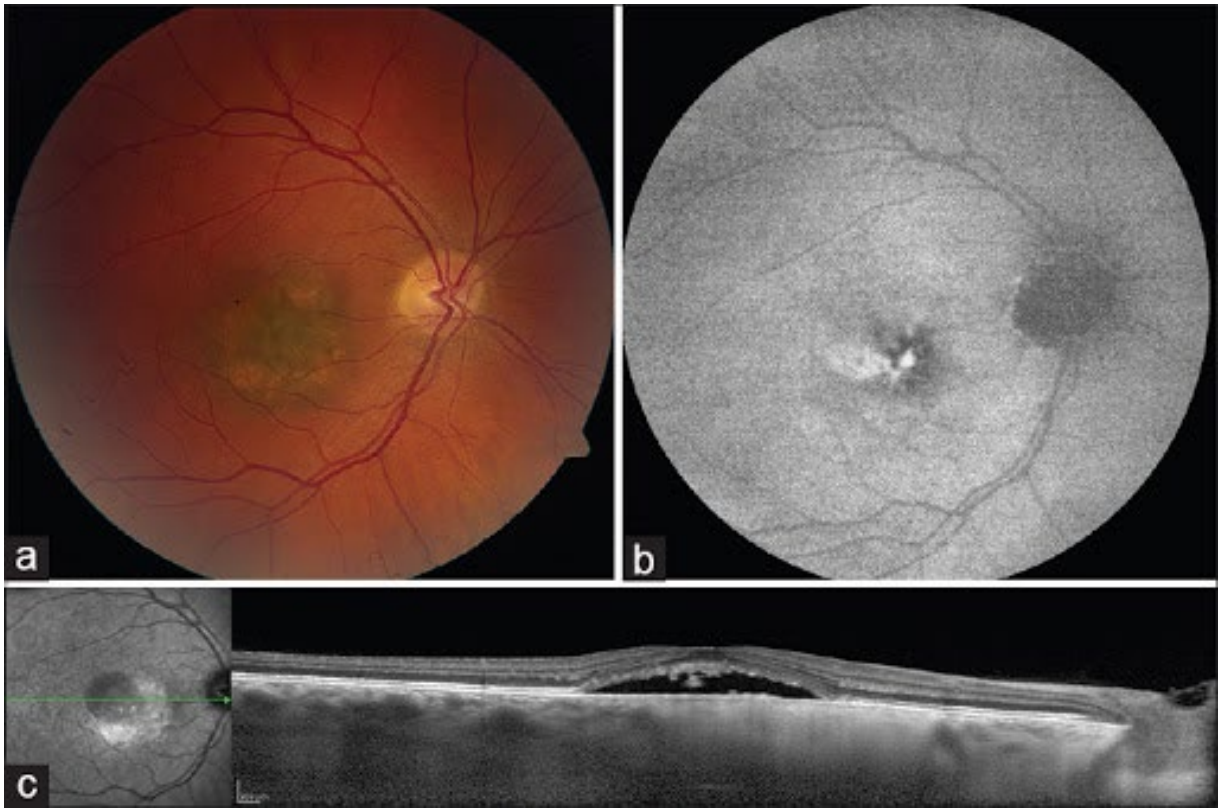
  - Absence of drusen
  - Presence of subretinal fluid

Choroidal Nevus vs Melanoma



(a) The right fundus showed a small pigmented submacular mass with prominent overlying orange pigment and shallow subretinal fluid, consistent with small choroidal melanoma.
(b) Autofluorescence photography documenting hyperautofluorescence of overlying lipofuscin.
(c) Spectral domain optical coherence tomography showing subfoveal fluid

Q

Choroidal Nevus vs Melanoma

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- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to structure

A

Choroidal Nevus vs Melanoma

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- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - Presence of orange pigmentation
  - Absence of drusen
  - Presence of subretinal fluid
  - Location adjacent to ONH *(ONH = optic nerve head)*

Choroidal Nevus vs Melanoma

Choroidal melanoma abutting ONH

Q

Choroidal Nevus vs Melanoma

- (Referring to Drs. Jerry and Carol Shields of the Wills Eye Hospital in Philadelphia.)
- Which clinical factor is pathognomonic for whether a melan… *None!*
- Lesion…
  - Virtu…
  - Virtually all lesions > 3 mm thick are melanomas
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - **Presence of orange pigmentation**
  - Absence of drusen
  - **Presence of subretinal fluid**
  - **Location adjacent to ONH**

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:

9 words

A

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ 10% of the population
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The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
"**T**o **F**ind **S**mall **O**cular **M**elanomas,
Use **H**elpful **H**ints **D**aily"

Q

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ 10% of the population
- *T* clinical factor is pathognomonic for whether a melan[illegible] *None!*
- Lesion[illegible]
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  - **Presence of orange pigmentation**
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The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
"To Find Small Ocular Melanomas, Use Helpful Hints Daily"

A

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ 10% of the population
- *Thickness >2mm* clinical factor is pathognomonic for whether a melan *None!*
- Lesion
  - Virtu vi
  - Virtually all lesions > 3 mm thick are melanomas
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - **Presence of orange pigmentation**
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The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
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Q

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ 10% of the population
- Which clinical factor is pathognomonic for whether a melanocytic choroidal lesion is a nevus or melanoma? *None!*
- Lesion thickness:
  - Virtually all nevi are < 2 mm thick
  - Virtually all lesions > 3 mm thick are melanomas
- Lesion diameter and malignancy: A flat lesion less than 10 mm in diameter is almost always benign
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - **Presence of orange pigmentation**
  - Absence of drusen
  - **Presence of subretinal fluid**
  - **Location adjacent to ONH**

F

***T**hickness >2mm*

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  - **Location adjacent to ONH**

***F**luid present*

***T**hickness >2mm*

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
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Q

Choroidal Nevus vs Melanoma

S

Fluid present

Thickness >2mm

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A

Choroidal Nevus vs Melanoma

***S**ymptomatic*

***F**luid present*

***T**hickness >2mm*

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Q

Choroidal Melanoma

Symptomatic

What symptoms associated with a melanocytic lesion would make you worry the lesion is a melanoma?

Thickness >2r

- Chor … e population … for whether a melan… *None!*
- Lesion…
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A

Choroid Melanoma

Symptomatic

What symptoms associated with a melanocytic lesion would make you worry the lesion is a melanoma?
Metamorphopsia, photopsias, and/or visual field loss

Thickness >2r

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
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  - Absence of drusen
  - **Presence of subretinal fluid**
  - **Location adjacent to ONH**

Q

Choroidal Nevus vs Melanoma

Symptomatic

Fluid present

O

Thickness >2mm

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
"To Find Small Ocular Melanomas, Use Helpful Hints Daily"

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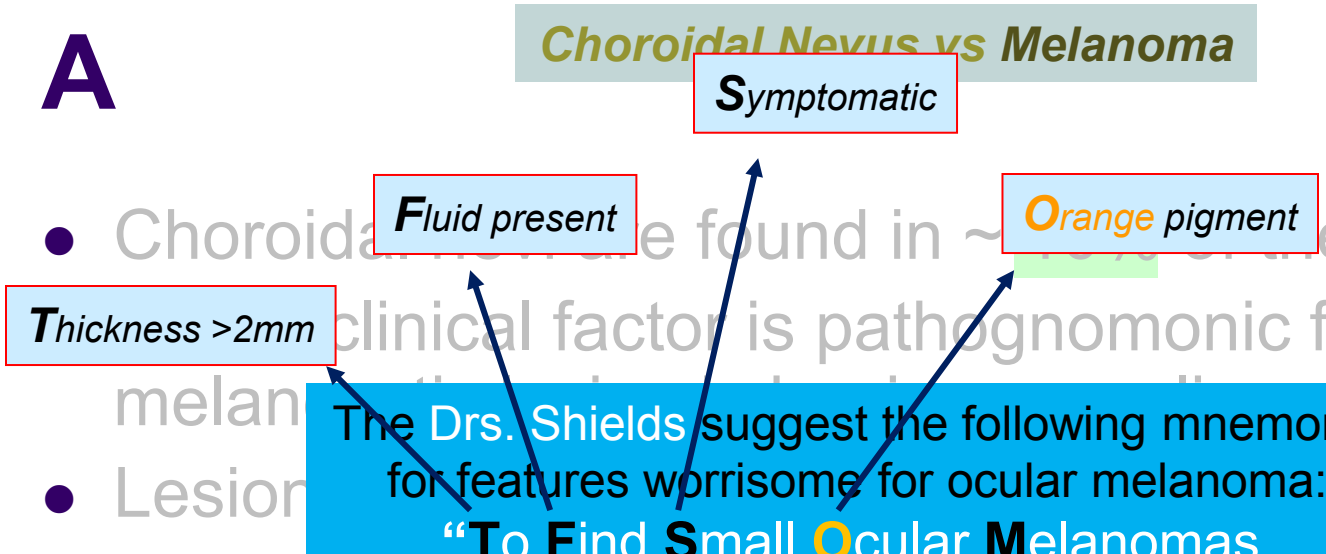
Choroidal Nevus vs Melanoma



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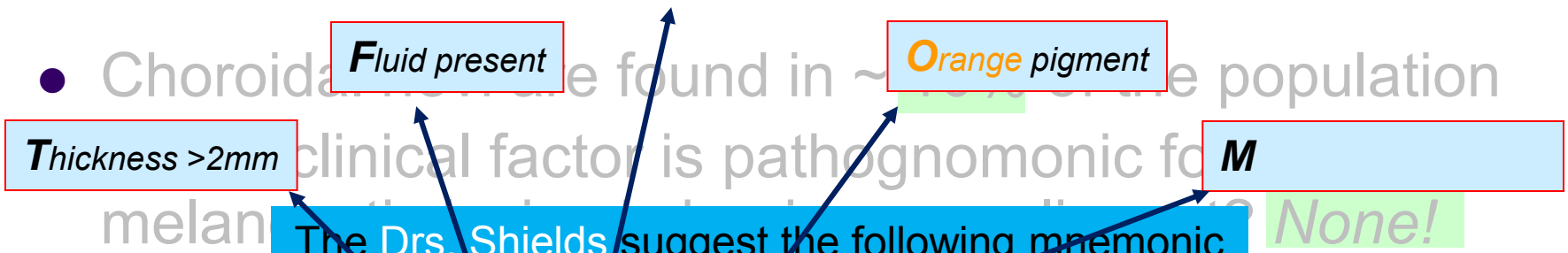
Q

Choroidal Nevus vs Melanoma



The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
"**T**o **F**ind **S**mall **O**cular **M**elanomas, **U**se **H**elpful **H**ints **D**aily"

- Choroidal nevi are found in ~ [illegible] of the population
- [illegible] clinical factor is pathognomonic fo[illegible] melan[illegible] None!
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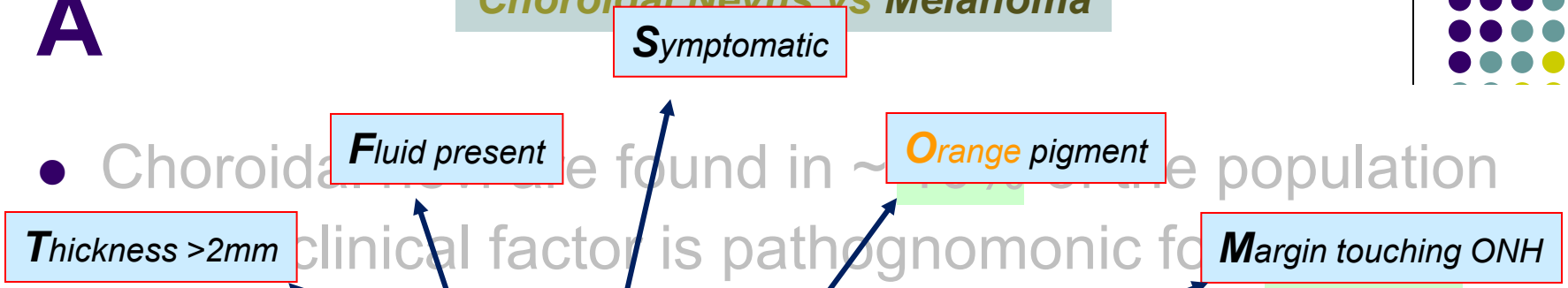
  - **Location adjacent to ONH**

A

Choroidal Nevus vs Melanoma



- Choroidal nevi are found in ~ % of the population
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- Lesion
  - Virtu vi
  - Virtually all lesions > 3 mm thick are melanomas
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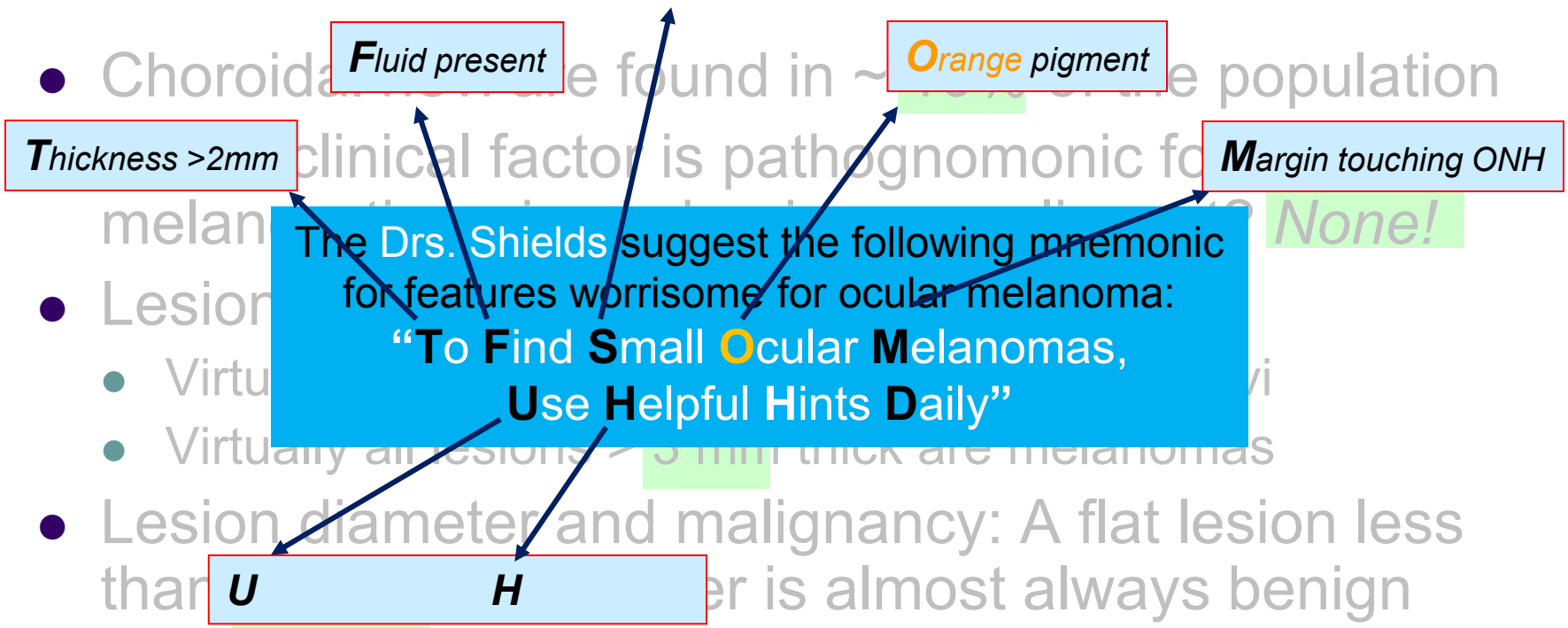
  - **Presence of orange pigmentation**
  - Absence of drusen
  - **Presence of subretinal fluid**
  - **Location adjacent to ONH**

Q

Choroidal Nevus vs Melanoma



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Choroidal Nevus vs Melanoma

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  - **Location adjacent to ONH**

The Drs. Shields suggest the following mnemonic for features worrisome for ocular melanoma:
"**T**o **F**ind **S**mall **O**cular **M**elanomas,
Use **H**elpful **H**ints **D**aily"

***T**hickness >2mm*

***F**luid present*

***S**ymptomatic*

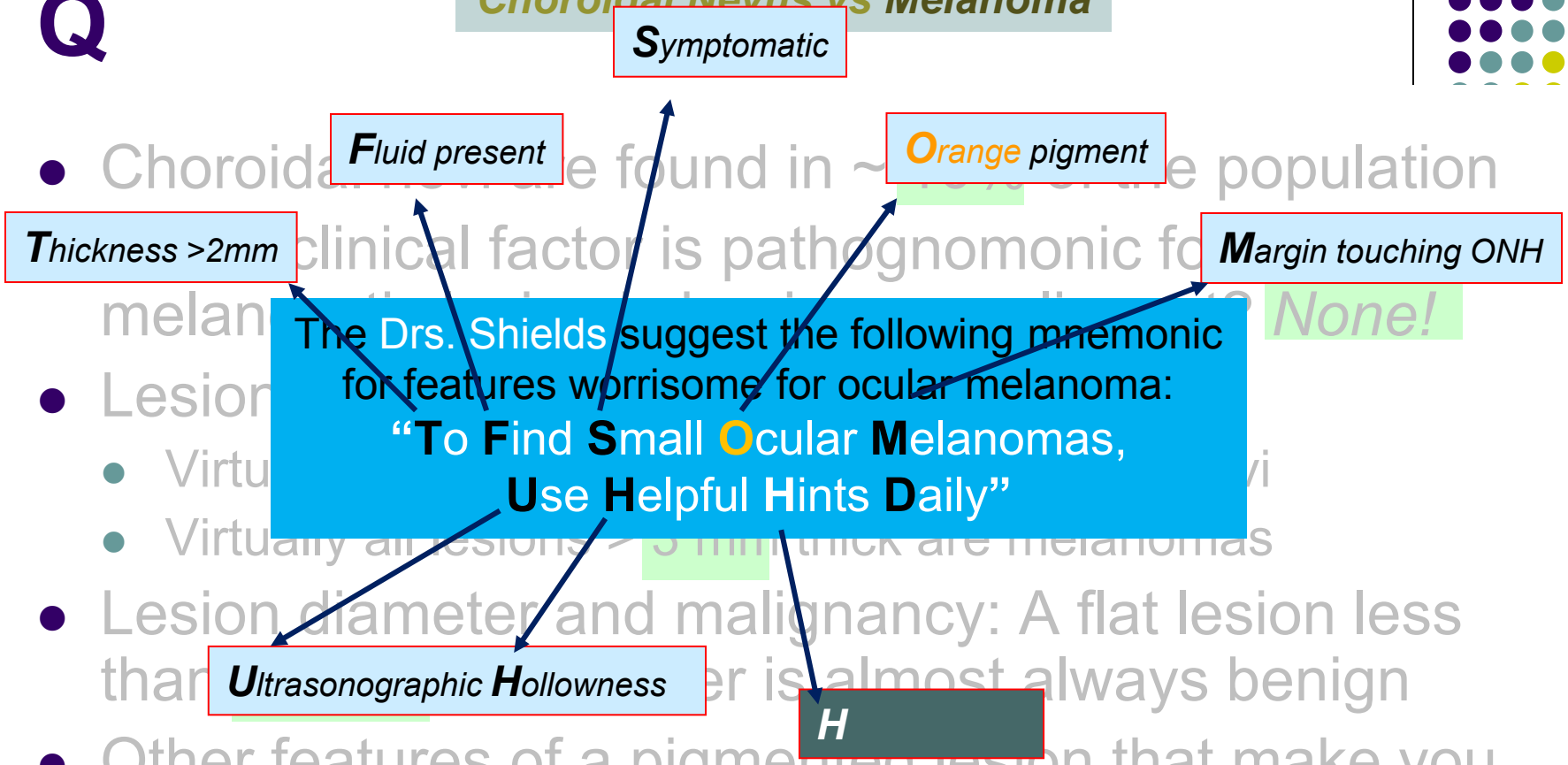
***O**range pigment*

***M**argin touching ONH*

***U**ltrasonographic **H**ollowness*

Q

Choroidal Nevus vs Melanoma



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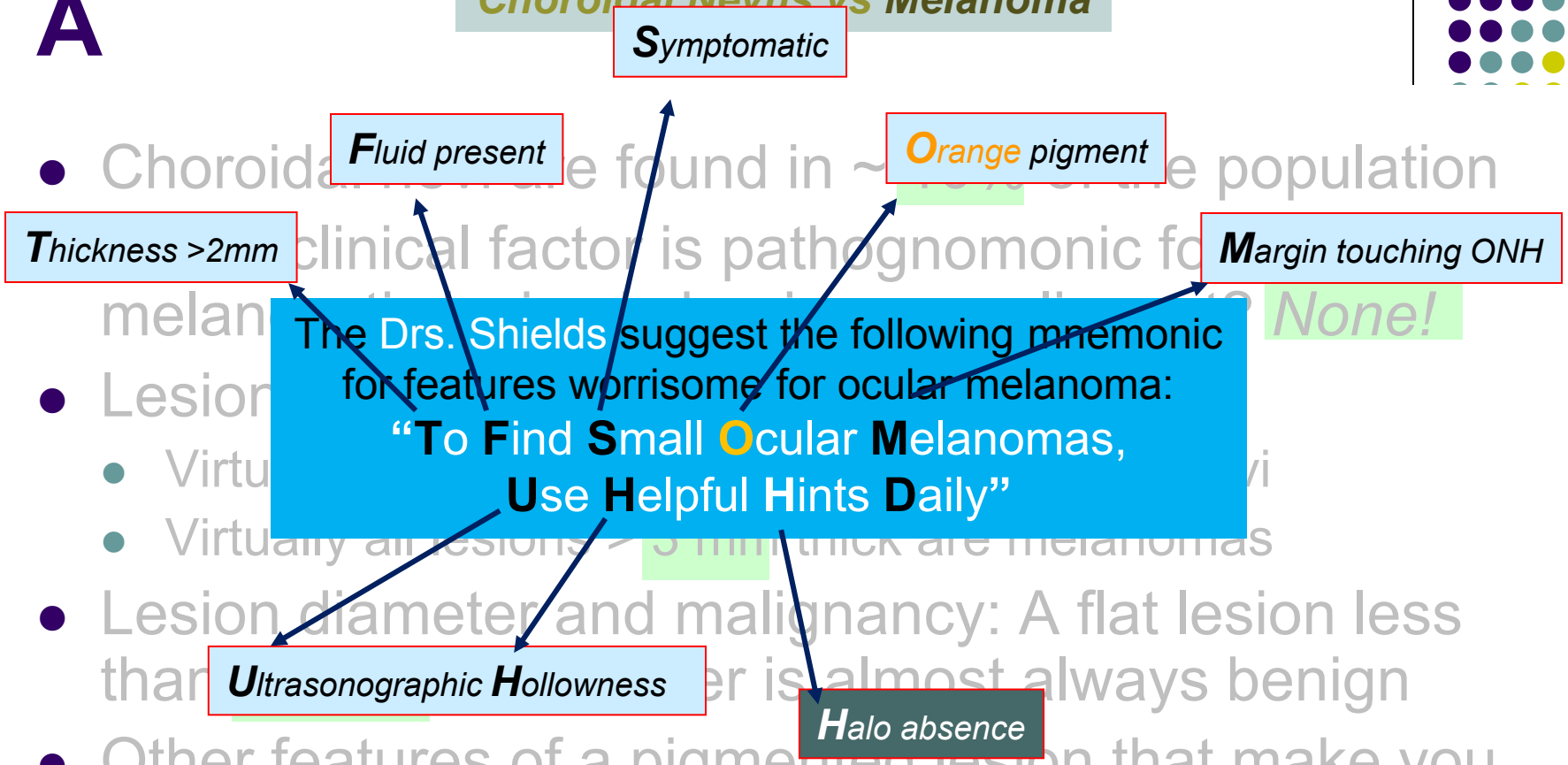
Choroidal Nevus vs Melanoma



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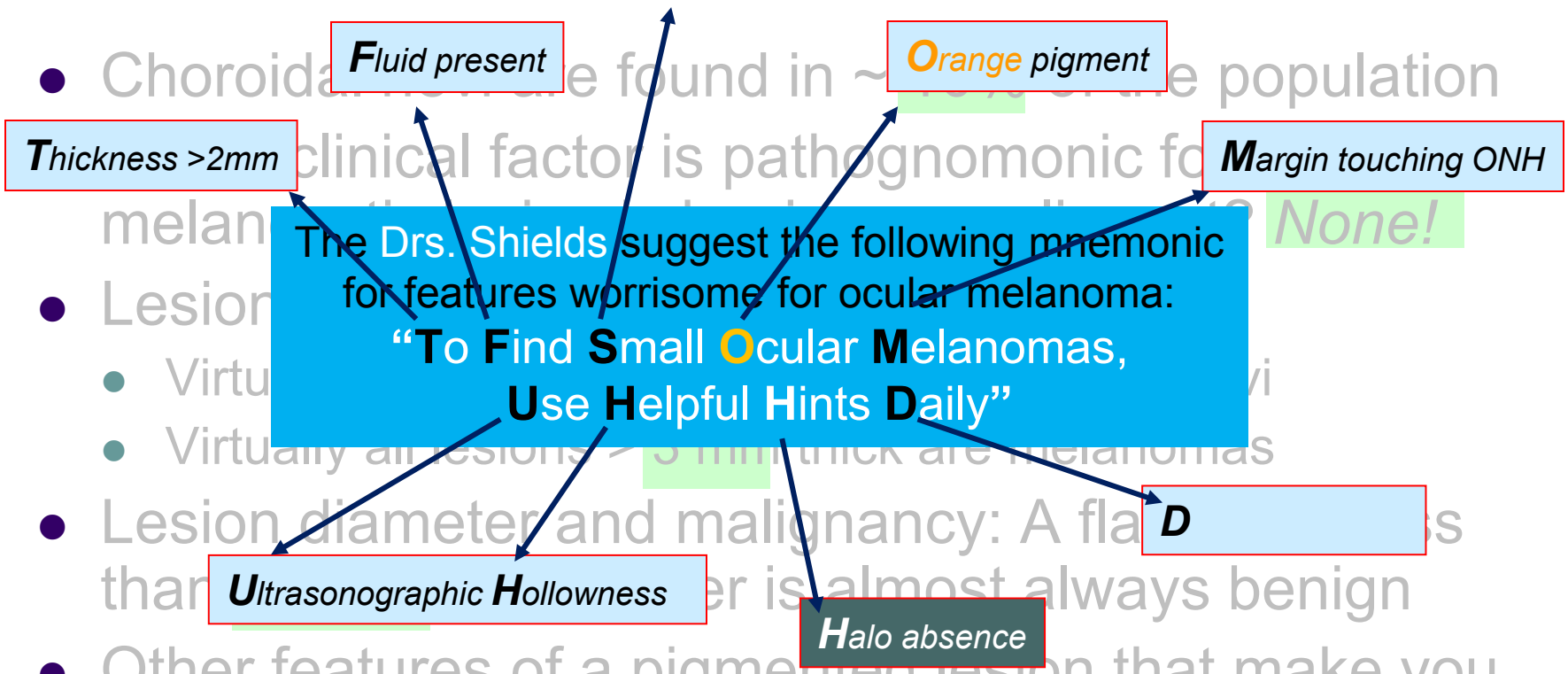
Q

Choroidal Nevus vs Melanoma



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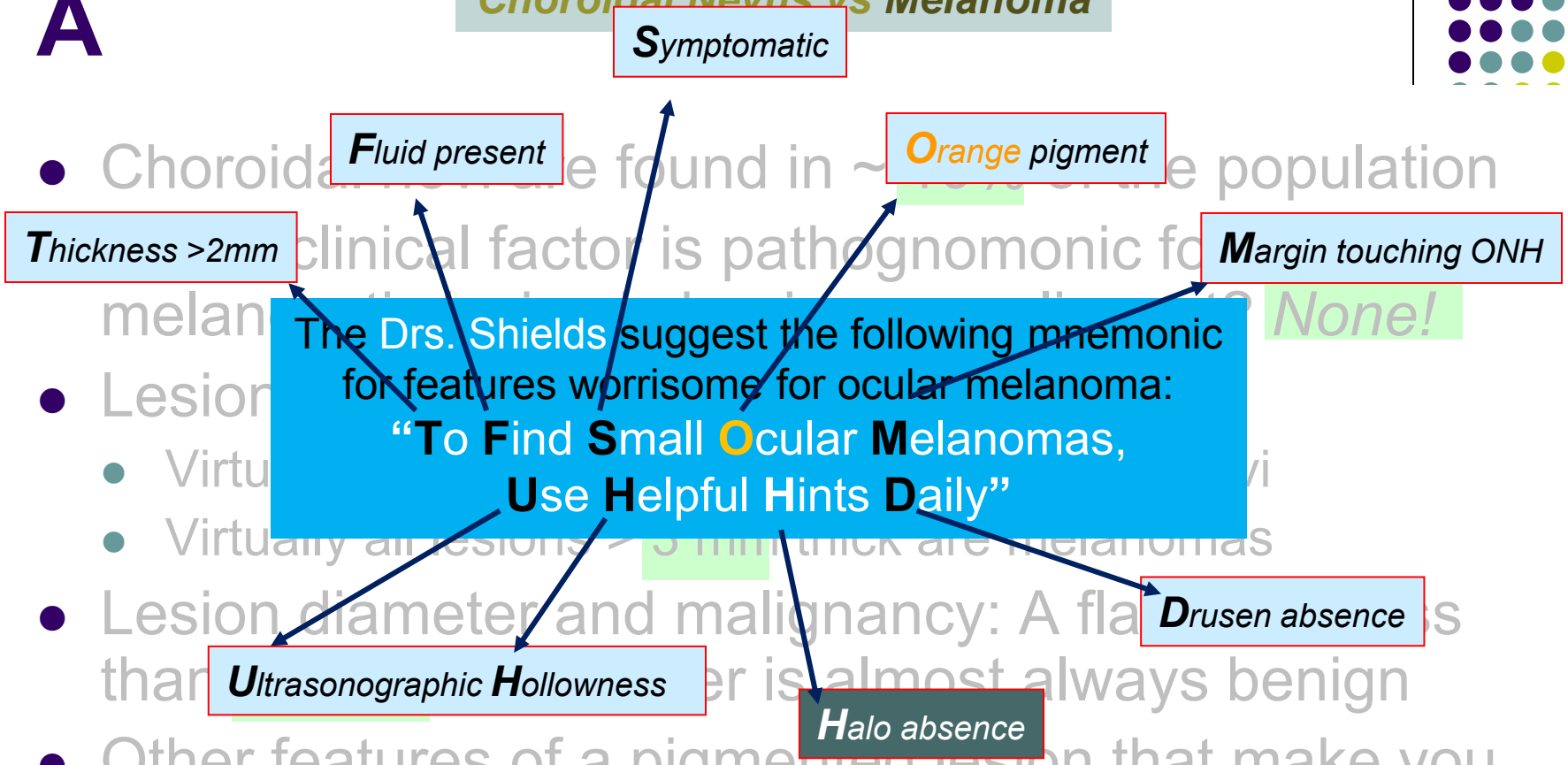

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Q

Choroidal Nevus vs Melanoma

- Choroidal nevi are found in ~ 10% of the population
- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*
- Lesion thickness and malignancy:
  - Virtually all lesions < 1 mm thick are benign nevi
  - L
  - t
- Other features of a pigmented lesion that make you worry it's actually a melanoma:
  - **Presence of orange pigmentation**
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Which of these is pathognomonic for choroidal melanoma?

A

Choroidal Nevus vs Melanoma

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- Which clinical factor is pathognomonic for whether a melanocytic lesion is benign or malignant? *None!*
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  - [illegible]
  - [illegible]
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  - **Presence of subretinal fluid**
  - **Location adjacent to ONH**

Which of these is pathognomonic for choroidal melanoma?

None of them. Remember, there is no pathognomonic clinical feature distinguishing choroidal nevi from choroidal melanoma!

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ big number

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

Which is more common, cutaneous or intraocular melanoma?

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

Which is more common, cutaneous or intraocular melanoma?

Cutaneous

Q

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

Which is more common, cutaneous or intraocular melanoma?
How much more common is it?
Cutaneous. About # times more common.

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million

Which is more common, cutaneous or intraocular melanoma?
How much more common is it?
Cutaneous. About 20 times more common.

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at age range

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65
    - Smaller peak at age range

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65
    - Smaller peak at 20-40

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
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A

Choroidal Nevus vs Melanoma

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Q

Choroidal Nevus vs Melanoma

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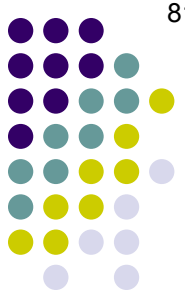
*Does intraocular melanoma occur in **children**?*

A

*Choroidal Nevus vs **Melanoma***



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*Does intraocular melanoma occur in **children**?*
Yes, albeit rarely

Q

Choroidal Nevus vs Melanoma

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Yes, albeit rarely

Does the pediatric version carry a better or worse prognosis c/w the adult version?

A

Choroidal Nevus vs Melanoma

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*Does intraocular melanoma occur in **children**?*
Yes, albeit rarely

Does the pediatric version carry a better or worse prognosis c/w the adult version?
Better

Q

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
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- Risk factors:
  - *?*
  - *?*
  - *?*
  - *?*

Q/A

Re choroidal/Ciliary Body melanoma…

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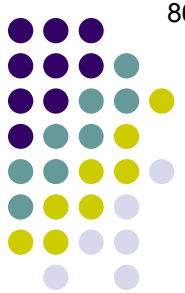
- Risk factors:
  - Ocular melanocytic conditions (e.g., word 1 of 2-word term word 2 of 2-word term)
  - ?
  - ?
  - ?

A

Choroidal Nevus vs Melanoma



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  - ?
  - ?
  - ?

Q

Choroidal Nevus vs Melanoma

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What is the eponymous name for oculodermal melanocytosis?

A

Choroidal Nevus vs Melanoma

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Nevus of Ota

Q

Choroidal Nevus vs Melanoma

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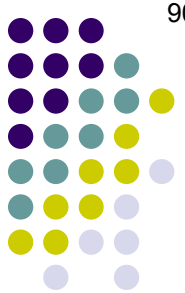
What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?

A

Choroidal Nevus vs Melanoma



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What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

Q

Choroidal Nevus vs Melanoma

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What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + **dermal melanocytosis** (Thanks, Captain Obvious)

How does dermal melanocytosis present clinically?

A

Choroidal Nevus vs Melanoma

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- Incidence: 6-7/ million
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Ocular melanocytosis + **dermal melanocytosis** (Thanks, Captain Obvious)

How does dermal melanocytosis present clinically?
With eyelid and periocular skin containing patches of diffusely **brown**, **gray**, or **blue** pigmentation

Choroidal Nevus vs Melanoma

Dermal melanocytosis

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
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Nevus of Ota

In a nutshell, what is ocul
Ocular melanocytosis +

How does ocular *melanocytosis present clinically?*

A

Choroidal Nevus vs Melanoma

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Ocular melanocytosis +

How does ocular *melanocytosis present clinically?*
With **slate-gray** patches of episcleral pigmentation

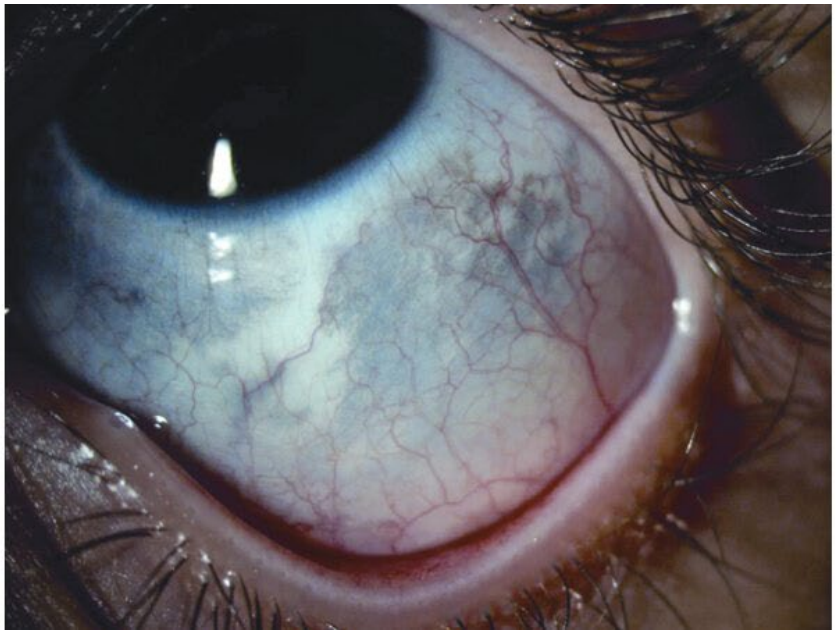
Choroidal Nevus vs Melanoma

Ocular melanocytosis

Choroidal Nevus vs Melanoma

Ocular melanocytosis

Choroidal Nevus vs Melanoma

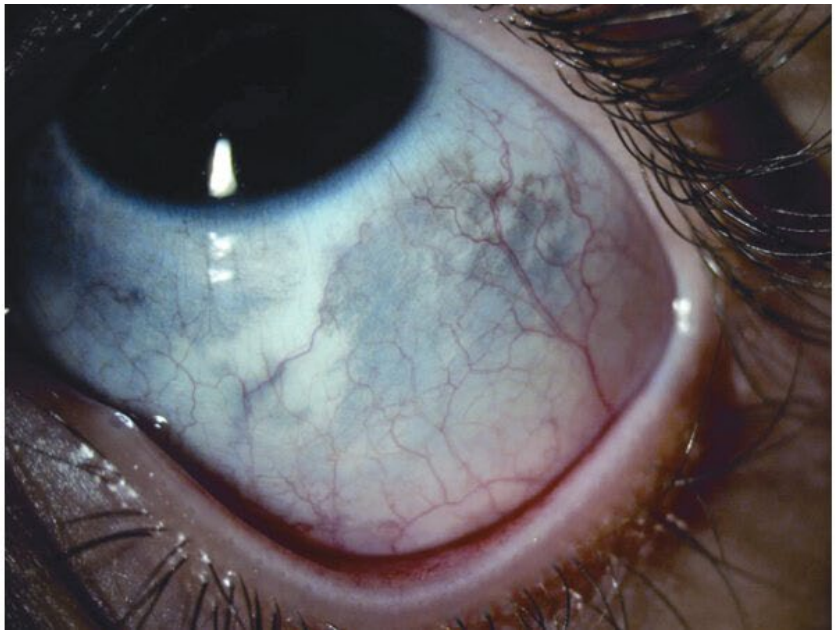


A

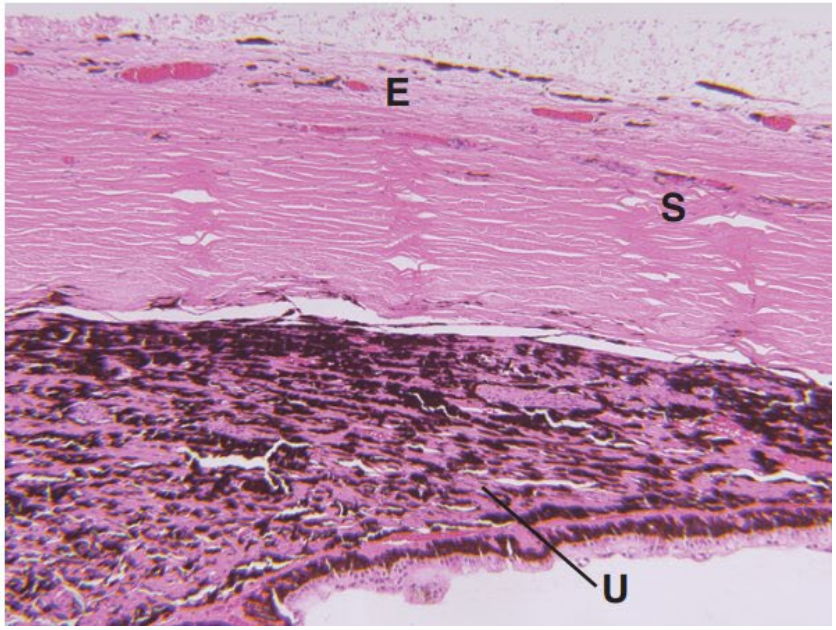
A, Clinical photograph illustrating slate-gray patches of pigmentation of the scleral surface.

Ocular melanocytosis

Choroidal Nevus vs Melanoma



A



B

A, Clinical photograph illustrating slate-gray patches of pigmentation of the scleral surface.
B, Histologic examination shows an increased population of intensely pigmented spindle and dendritic melanocytes in the deep episclera (E), sclera (S), and uveal tract (U).

Ocular melanocytosis

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
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- Risk factors:
  - Ocular melanocytic conditions (e.g., **oculodermal melanocytosis**)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is ocul
Ocular melanocytosis +

How does ocular *melanocytosis present clinically?*
With **slate-gray** patches of episcleral pigmentation

In addition to choroidal melanoma, an eye with ocular melanocytosis is at increased risk of what other potentially blinding (but not fatal) ocular condition?

Q/A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

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Glaucoma—about % of these eyes develop it

A

Choroidal Nevus vs Melanoma

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Choroidal Nevus vs Melanoma

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- Risk factors:
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What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

*In a nutshell, what is **oculodermal melanocytosis**?*
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

(Pictured on the next several slides)

Choroidal Nevus vs Melanoma

Oculodermal melanocytosis (nevus of Ota)

Choroidal Nevus vs Melanoma

Oculodermal melanocytosis (nevus of Ota)

Q

Choroidal Nevus vs Melanoma

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Nevus of Ota

In a nutshell, what is oculodermal melanocytosis?
Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

Does oculodermal melanocytosis manifest an ethnicity predilection?

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

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Ocular melanocytosis + dermal melanocytosis (Thanks, Captain Obvious)

Does oculodermal melanocytosis manifest an ethnicity predilection?
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
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In a nutshell, what is oculodermal melanocy
Ocular melanocytosis + dermal melanocyto

Does oculodermal melanocytosis manifest an ethnicity predilection?
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Incidence: 6-7/ million
  - Two peaks (age in years):
    - Main peak is at 55-65; at this peak, incidence is M = F
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- **Risk factors:**
  - Ocular melanocytic conditions (e.g., **oculodermal melanocytosis**)

What is the eponymous name for oculodermal melanocytosis?
Nevus of Ota

In a nutshell, what is oculodermal melanocy
Ocular melanocytosis + dermal melanocyto

Does oculodermal melanocytosis manifest an ethnicity predilection?
It is more common among relatively pigmented peoples: Hispanic, African, and/or Asian descent

In which of these groups does oculodermal melanocytosis convey an increased risk of melanoma?
None

Q

Choroidal Nevus vs Melanoma

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Q/A

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That's quite a change from baseline risk

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For more on Nevus of Ota, see slide-set O9

baseline risk

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  - color, sort of irides Next question
  - ?
  - ?

A

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  - Light irides
  - *?*
  - *?*

Q

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  - Light irides
  - bad habit
  - *?*

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  - *?*

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  - Cigarette smoking
  - [redacted] ethnicity

A

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Q

Choroidal Nevus vs Melanoma

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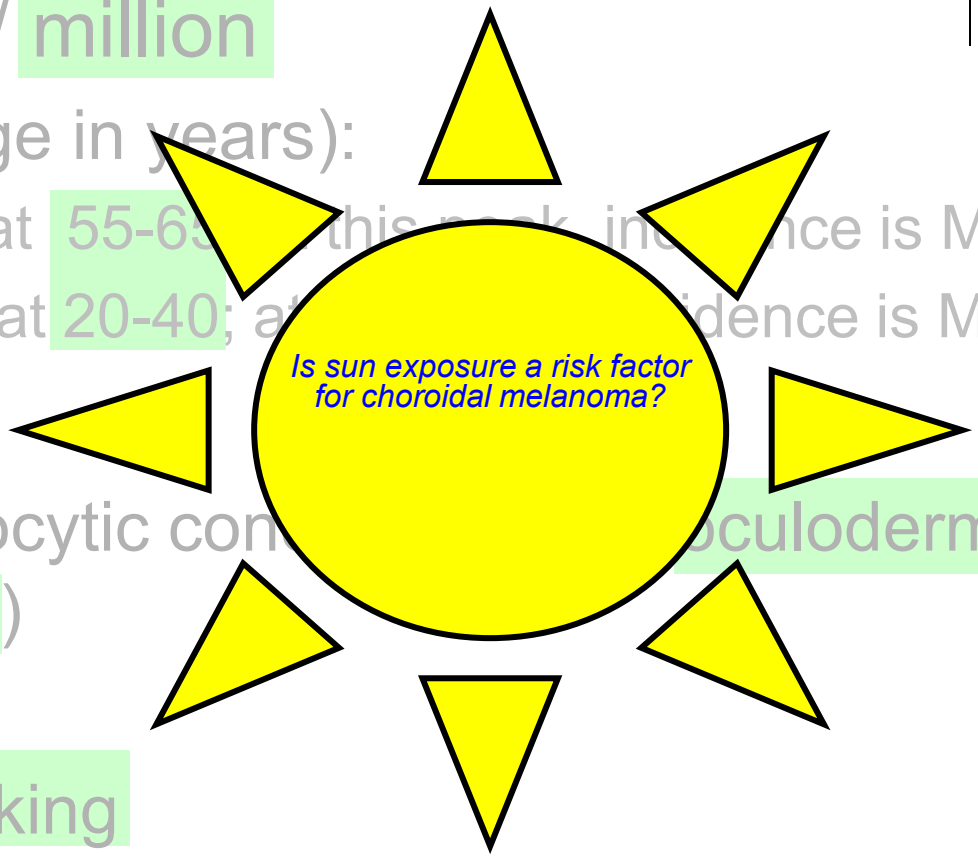

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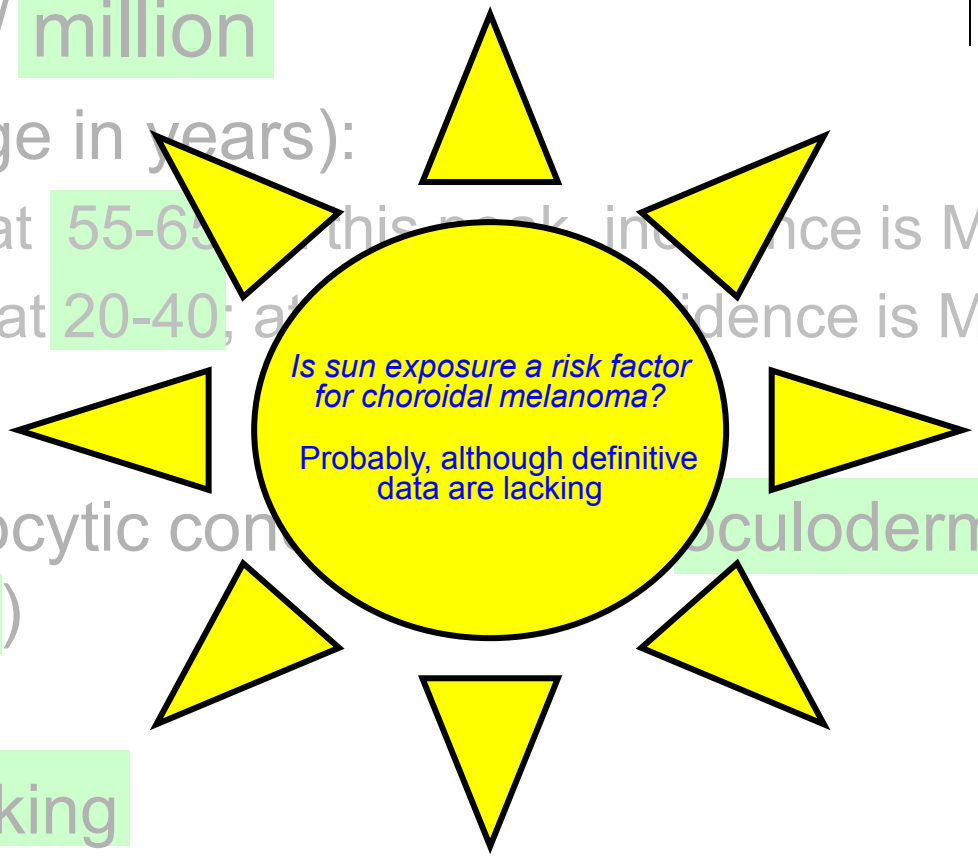

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma?

A

Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS

Q

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A

Choroidal Nevus vs Melanoma

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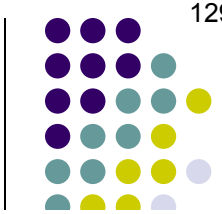
Q

Choroidal Nevus vs Melanoma



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Q/A

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Small Tumors

Medium Tumors

Large Tumors

Q

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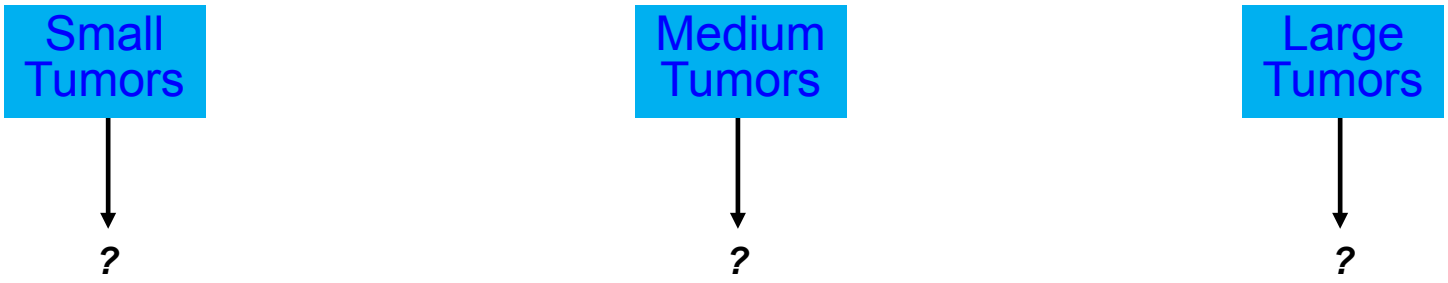

In general experimental-design terms, what sort of study was each trial?

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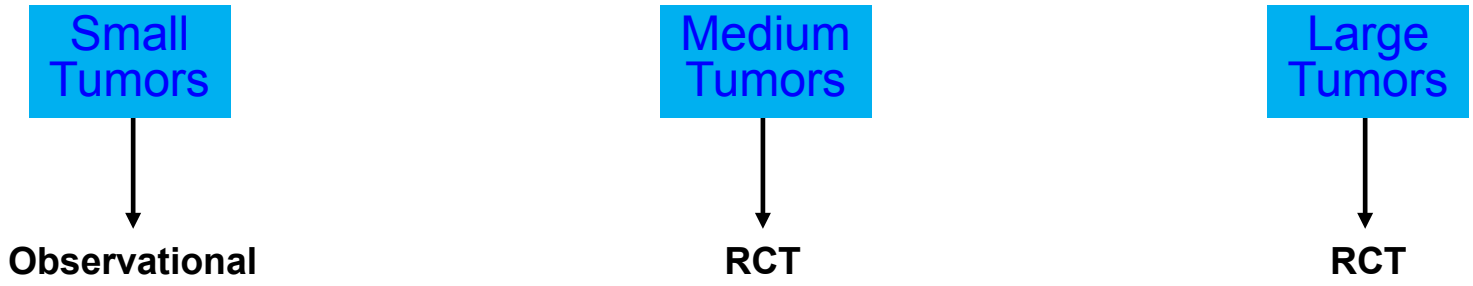

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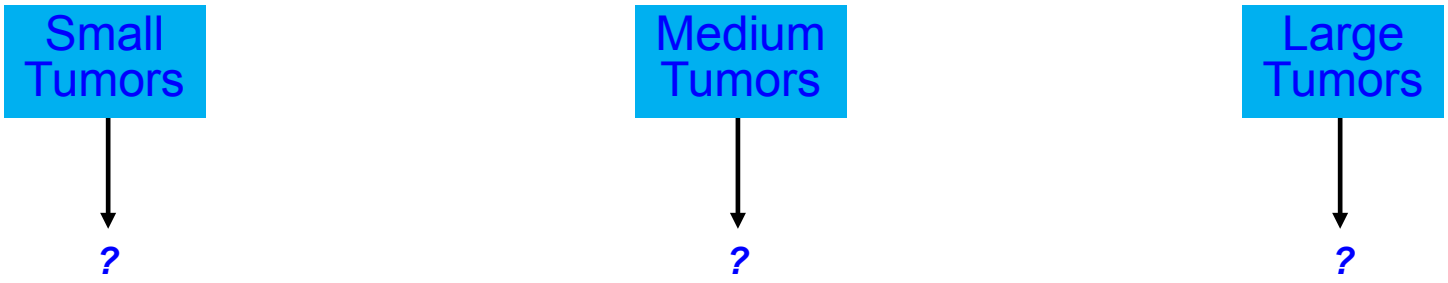

About how many eyes were enrolled in each?

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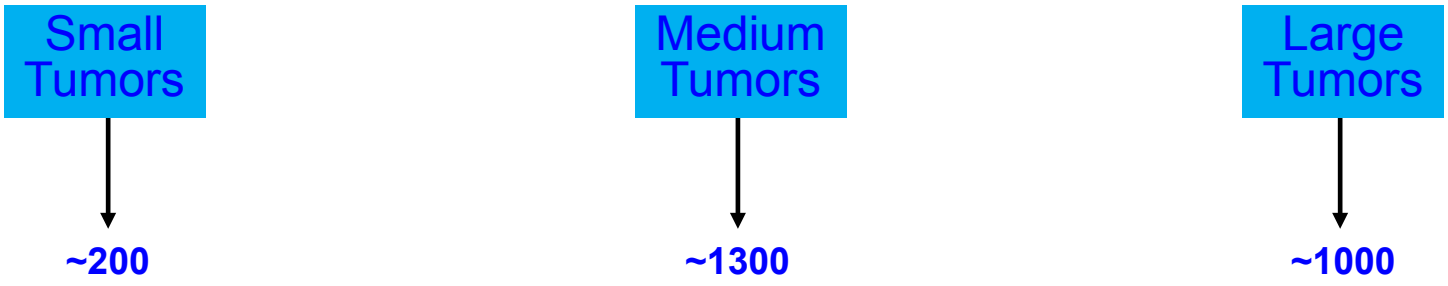

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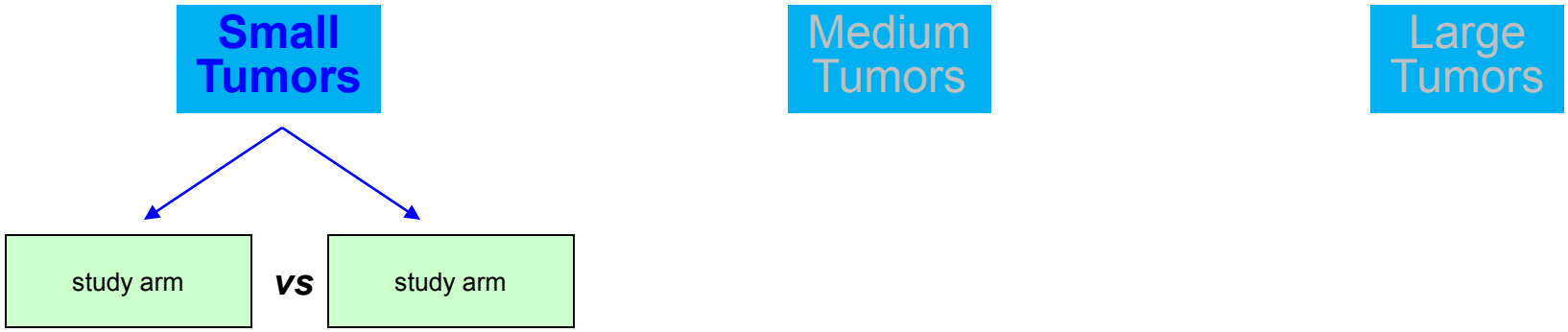

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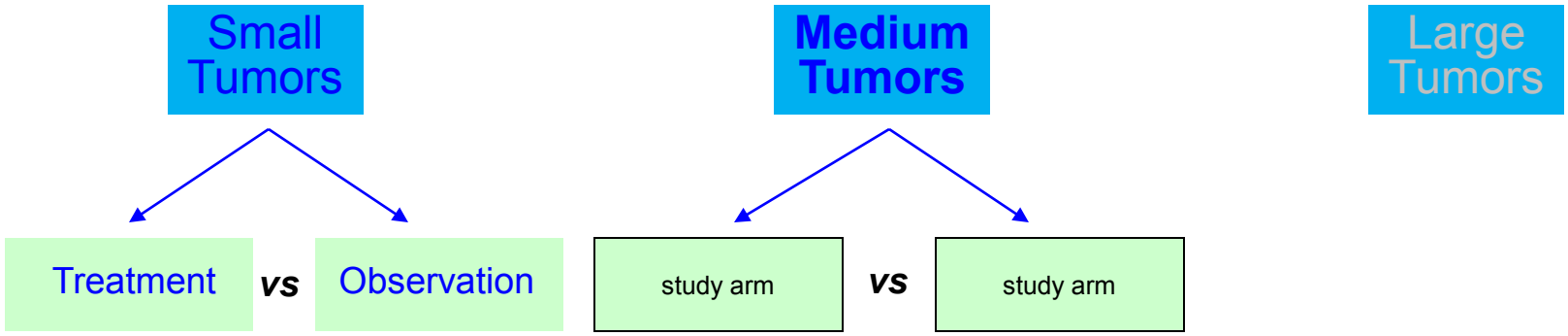

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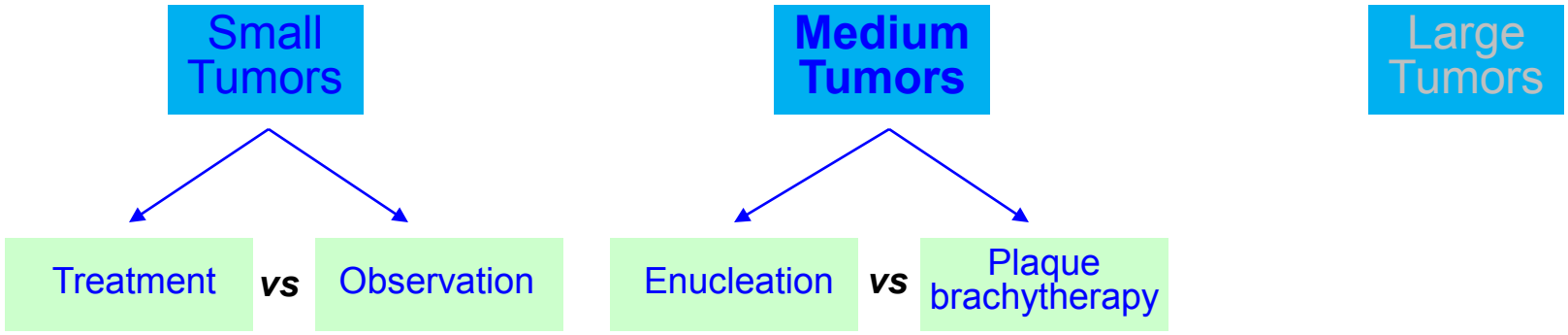

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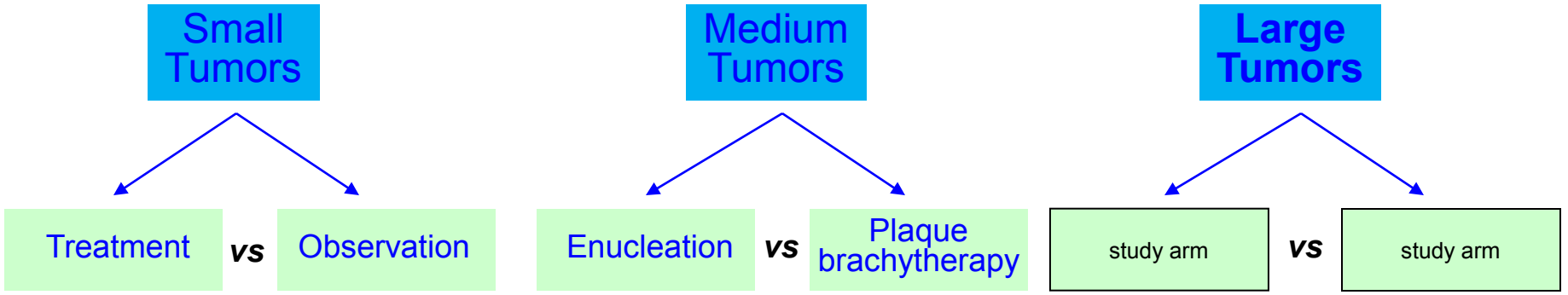

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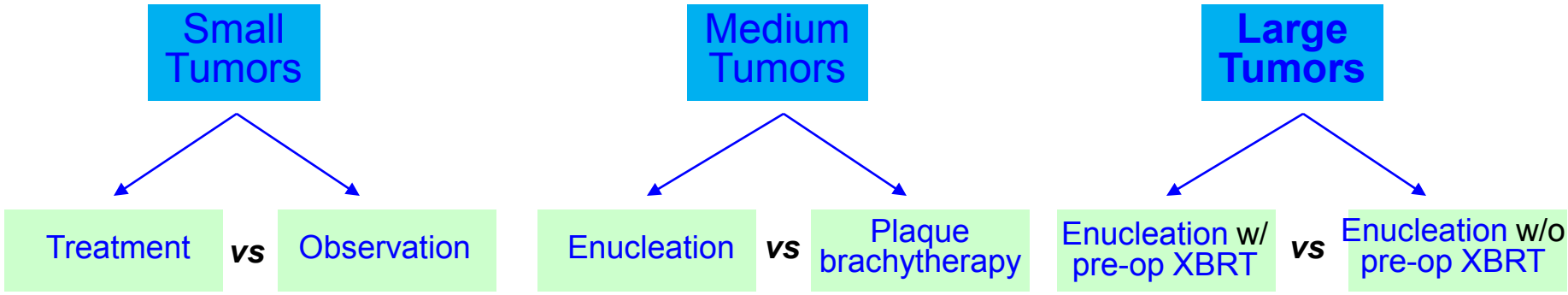

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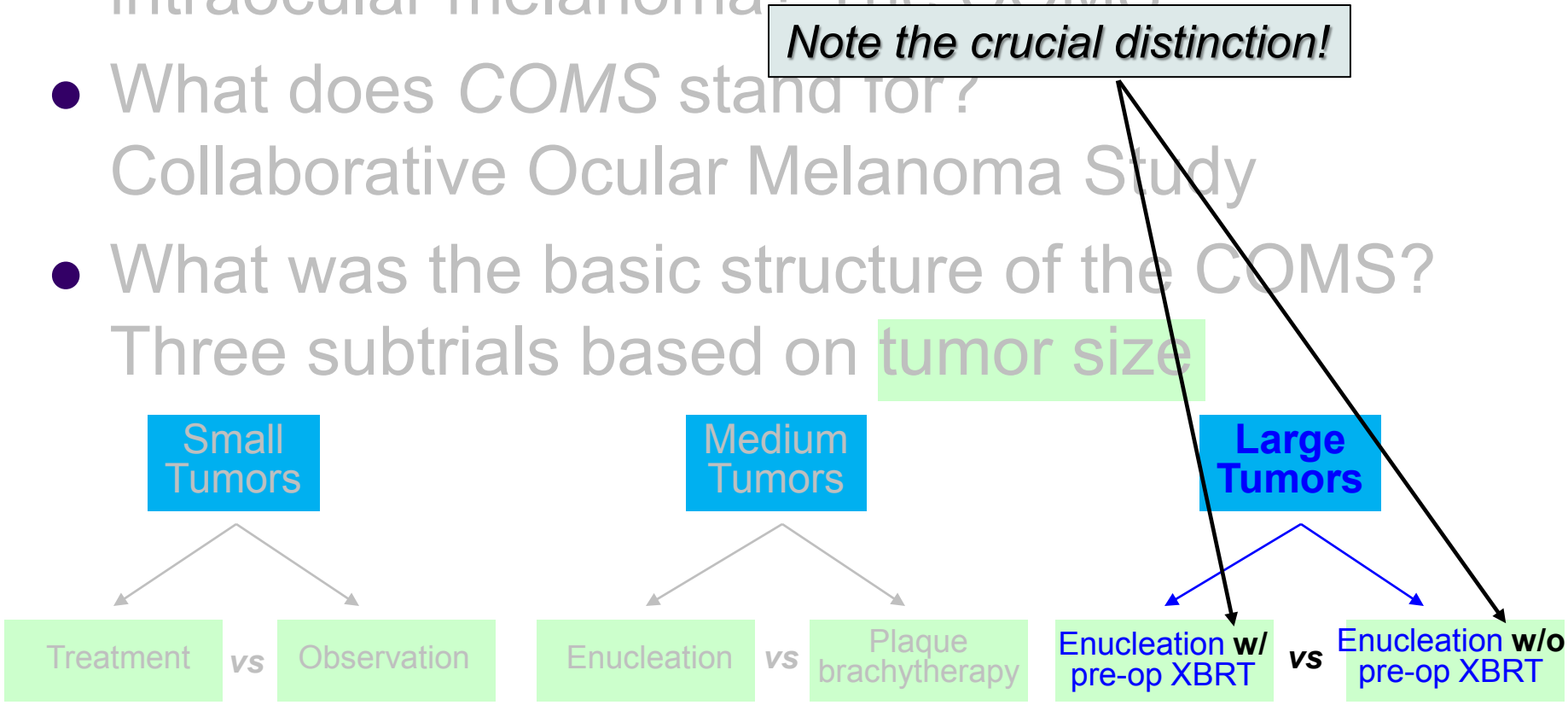

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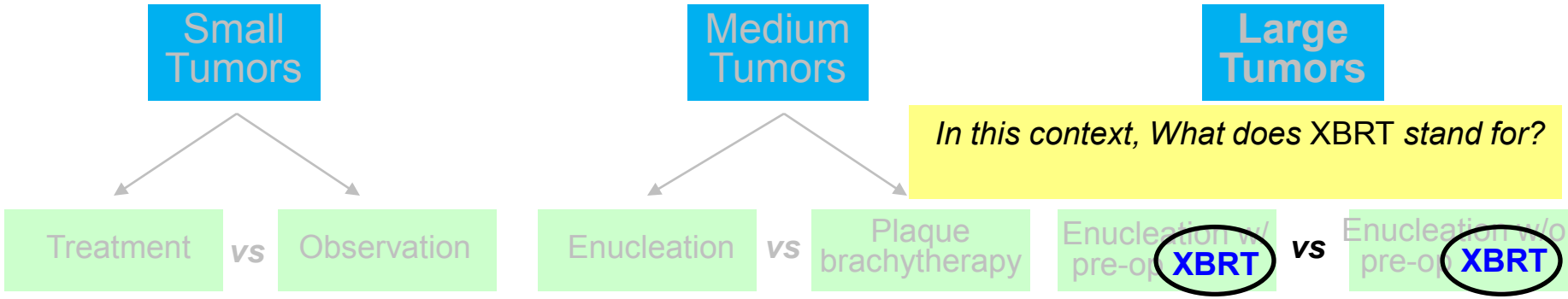

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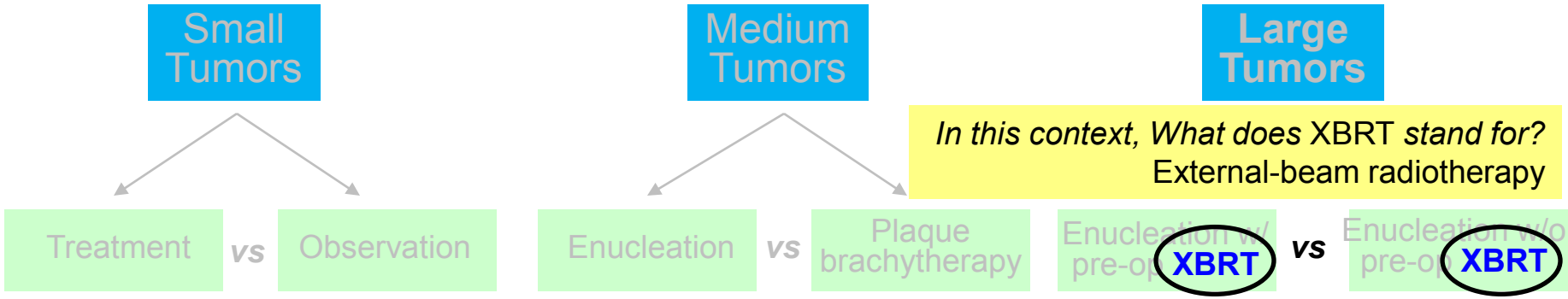

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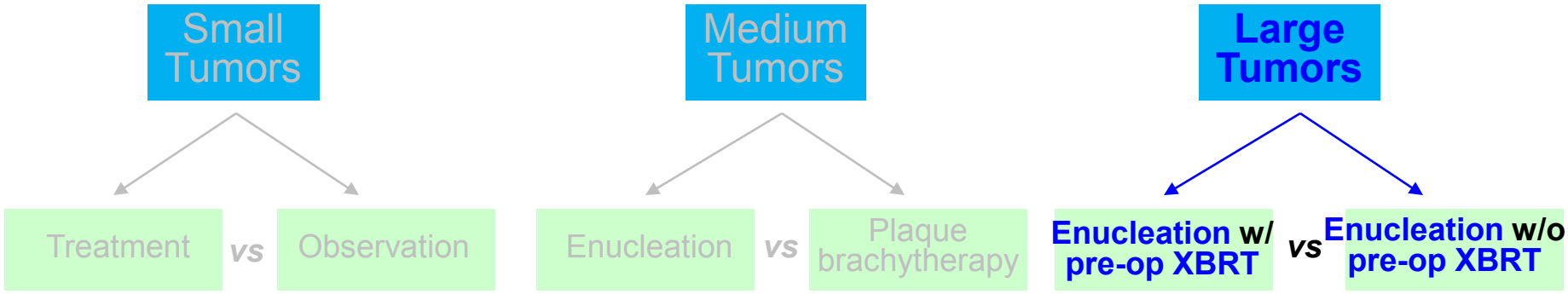
Did pre-op XBRT improve survival?



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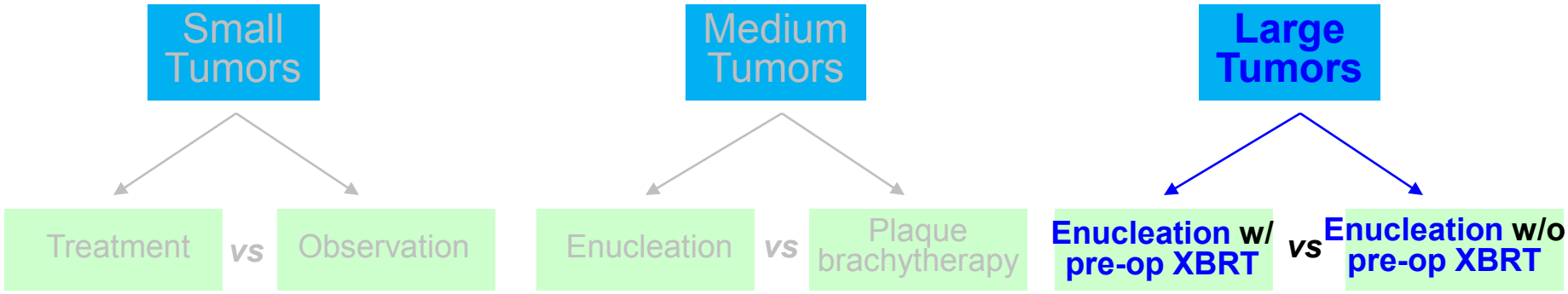
Did pre-op XBRT improve survival? **NO**



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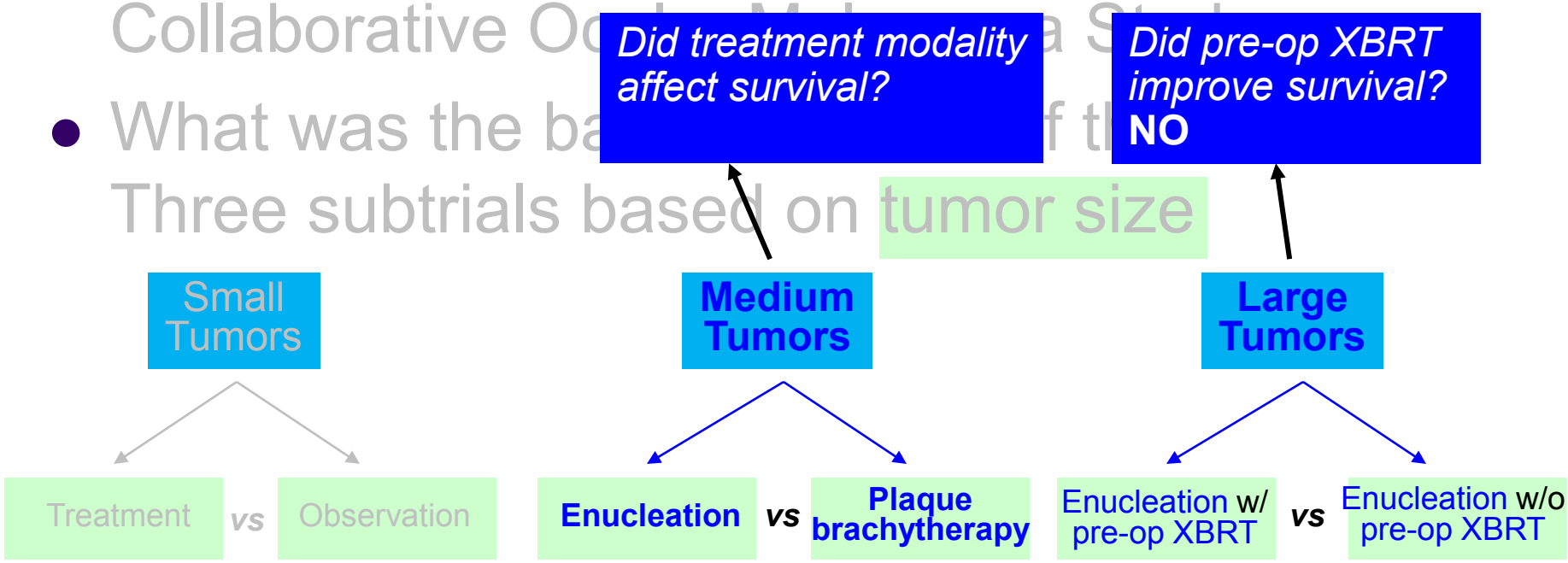

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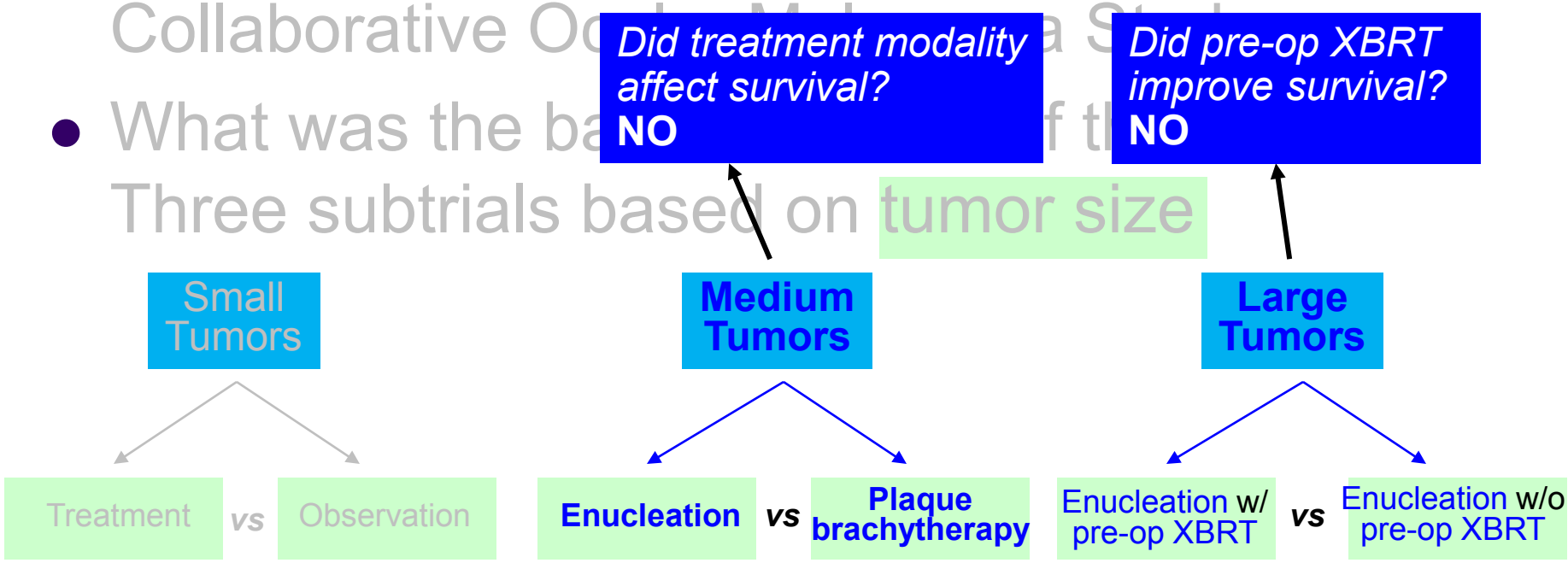

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Which was better?

Did treatment modality affect survival? **NO**

Did pre-op XBRT improve survival? **NO**

Small Tumors

Treatment ***vs*** **Observation**

Medium Tumors

Enucleation ***vs*** Plaque brachytherapy

Large Tumors

Enucleation w/ pre-op XBRT ***vs*** Enucleation w/o pre-op XBRT

A

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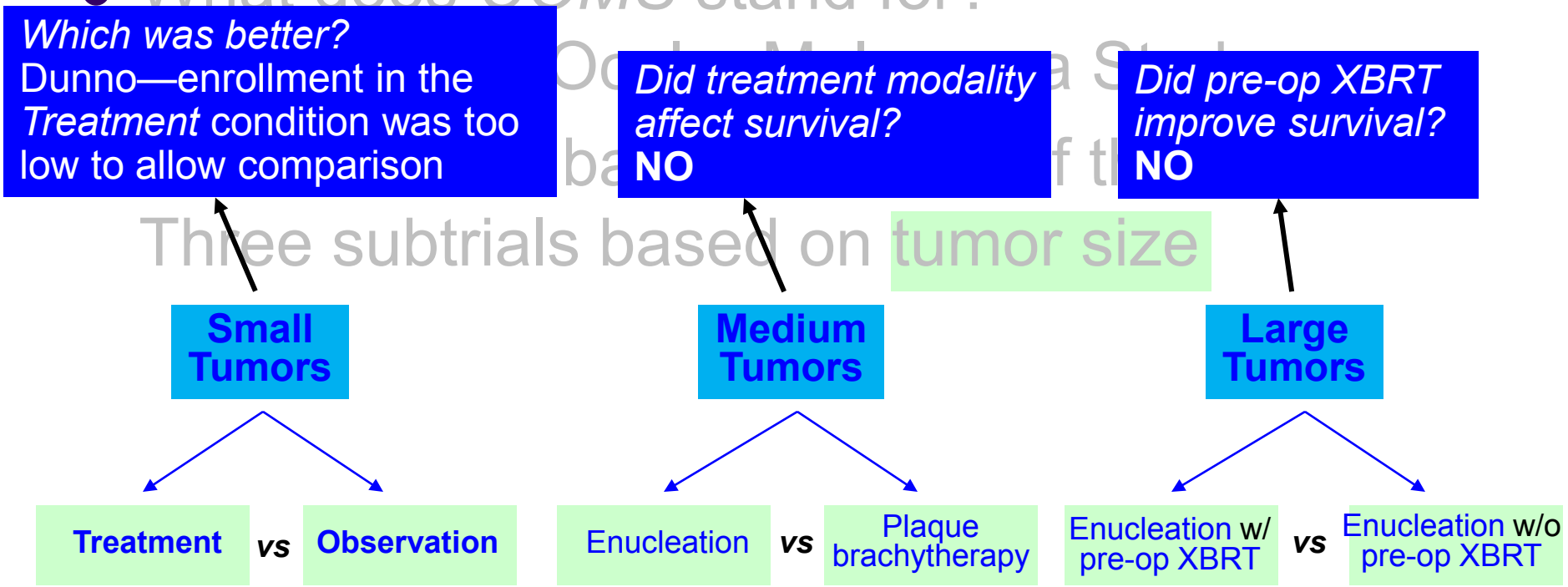
Re choroidal/Ciliary Body melanoma…

- What is the acronym for the major clinical trial that addressed the management of intraocular melanoma? The COMS
- What does *COMS* stand for?
- Three subtrials based on tumor size



Q

Choroidal Nevus vs Melanoma

What did observation of the Observation group reveal?

dy melanoma…

for the major clinical trial

anagement of

a? The COMS

- What does *COMS* stand for?

Ocular Melanoma St

ba f th

Three subtrials based on tumor size

Which was better?
Dunno—enrollment in the *Treatment* condition was too low to allow comparison

Did treatment modality affect survival?
NO

Did pre-op XBRT improve survival?
NO

Small Tumors

Medium Tumors

Large Tumors

Treatment ***vs*** **Observation**

Enucleation ***vs*** Plaque brachytherapy

Enucleation w/ pre-op XBRT ***vs*** Enucleation w/o pre-op XBRT

Q/A

Choroidal Nevus vs Melanoma

What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: ***?***

Which was better?
Dunno—enrollment in the *Treatment* condition was too low to allow comparison

Did treatment modality affect survival?
NO

Did pre-op XBRT improve survival?
NO

Small Tumors

Medium Tumors

Large Tumors

Treatment ***vs*** **Observation**

Enucleation ***vs*** Plaque brachytherapy

Enucleation w/ pre-op XBRT ***vs*** Enucleation w/o pre-op XBRT

A

Choroidal Nevus vs Melanoma

What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: 10%

dy melanoma…

for the major clinical trial

anagement of

a? The COMS

- What does *COMS* stand for?

Oc a St

ba f th

Three subtrials based on tumor size

Which was better?
Dunno—enrollment in the *Treatment* condition was too low to allow comparison

Did treatment modality affect survival?
NO

Did pre-op XBRT improve survival?
NO

Small Tumors

Medium Tumors

Large Tumors

Treatment ***vs*** **Observation**

Enucleation ***vs*** Plaque brachytherapy

Enucleation w/ pre-op XBRT ***vs*** Enucleation w/o pre-op XBRT

Q

*Choroidal Nevus vs **Melanoma***

What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: 10%
--By 5 years: ***?***

...dy melanoma…

...for the major clinical trial ...anagement of ...a? The COMS

- What does *COMS* stand for?

...Oc... M... a S...

...ba... f th...

Three subtrials based on tumor size

Which was better?
Dunno—enrollment in the *Treatment* condition was too low to allow comparison

Did treatment modality affect survival?
NO

Did pre-op XBRT improve survival?
NO

Small Tumors: **Treatment** *vs* **Observation**

Medium Tumors: Enucleation *vs* Plaque brachytherapy

Large Tumors: Enucleation w/ pre-op XBRT *vs* Enucleation w/o pre-op XBRT

A

Choroidal Nevus vs Melanoma

What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: 10%
--By 5 years: 20%

dy melanoma…

for the major clinical trial

anagement of

a? The COMS

- What does *COMS* stand for?

Three subtrials based on tumor size

Which was better?
Dunno—enrollment in the *Treatment* condition was too low to allow comparison

Did treatment modality affect survival?
NO

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NO

Small Tumors

Medium Tumors

Large Tumors

Treatment ***vs*** **Observation**

Enucleation ***vs*** Plaque brachytherapy

Enucleation w/ pre-op XBRT ***vs*** Enucleation w/o pre-op XBRT

Q

*Choroidal Nevus vs **Melanoma***

What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: 10%
--By 5 years: 20%
--By 10 years: ***?***

...dy melanoma…
...for the major clinical trial ...anagement of ...a? The COMS

- What does *COMS* stand for?

Which was better?
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NO

Did pre-op XBRT improve survival?
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Three subtrials based on tumor size

Small Tumors: **Treatment** *vs* **Observation**

Medium Tumors: Enucleation *vs* Plaque brachytherapy

Large Tumors: Enucleation w/ pre-op XBRT *vs* Enucleation w/o pre-op XBRT

A

Choroidal Nevus vs Melanoma

What did observation of the Observation group reveal?
Small tumors grew enough to qualify as Medium (or Large) at the following rates:
--By 1 year: 10%
--By 5 years: 20%
--By 10 years: 30%

dy melanoma…

for the major clinical trial

anagement of

a? The COMS

- What does *COMS* stand for?

Which was better?
Dunno—enrollment in the *Treatment* condition was too low to allow comparison

Did treatment modality affect survival?
NO

Did pre-op XBRT improve survival?
NO

Three subtrials based on tumor size

Small Tumors

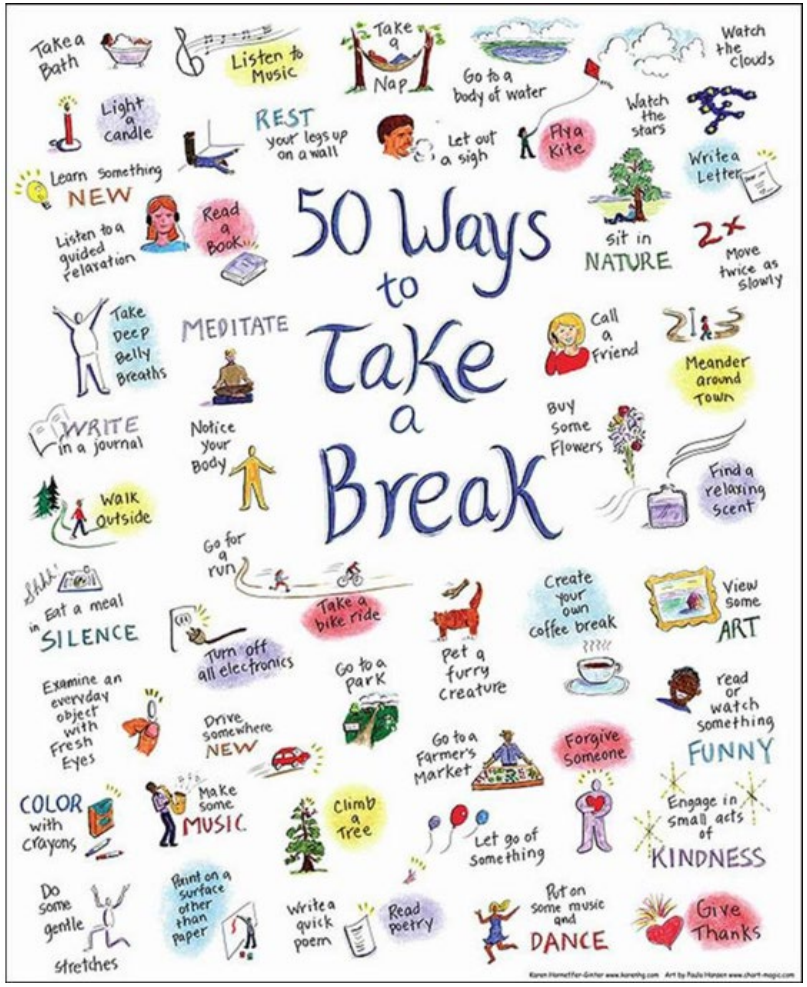
Medium Tumors

Large Tumors

Treatment ***vs*** **Observation**

Enucleation ***vs*** Plaque brachytherapy

Enucleation w/ pre-op XBRT ***vs*** Enucleation w/o pre-op XBRT



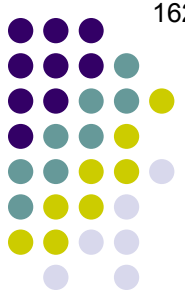
(This is a good point in the set to take a break)

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: exam maneuver



A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for location tumors

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for subtype tumors)

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)

Choroidal Nevus vs Melanoma

Choroidal melanoma: Transillumination

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyper- vs hypofluorescence (if not present, question the diagnosis)

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

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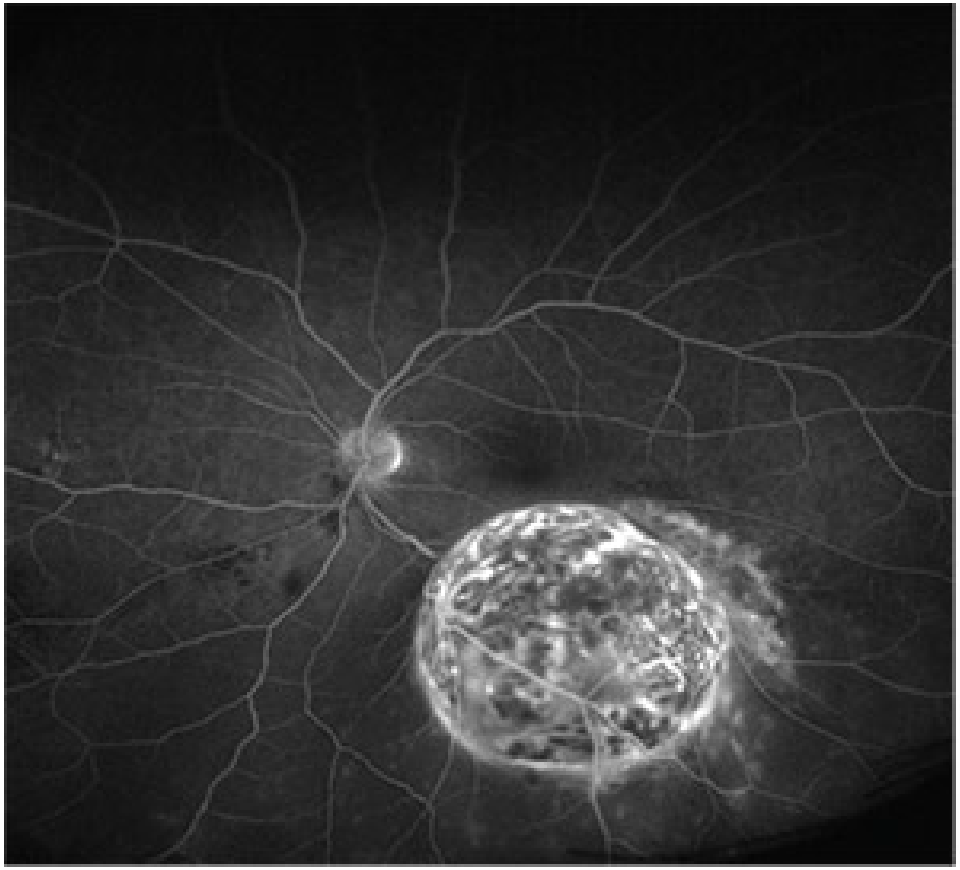
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)

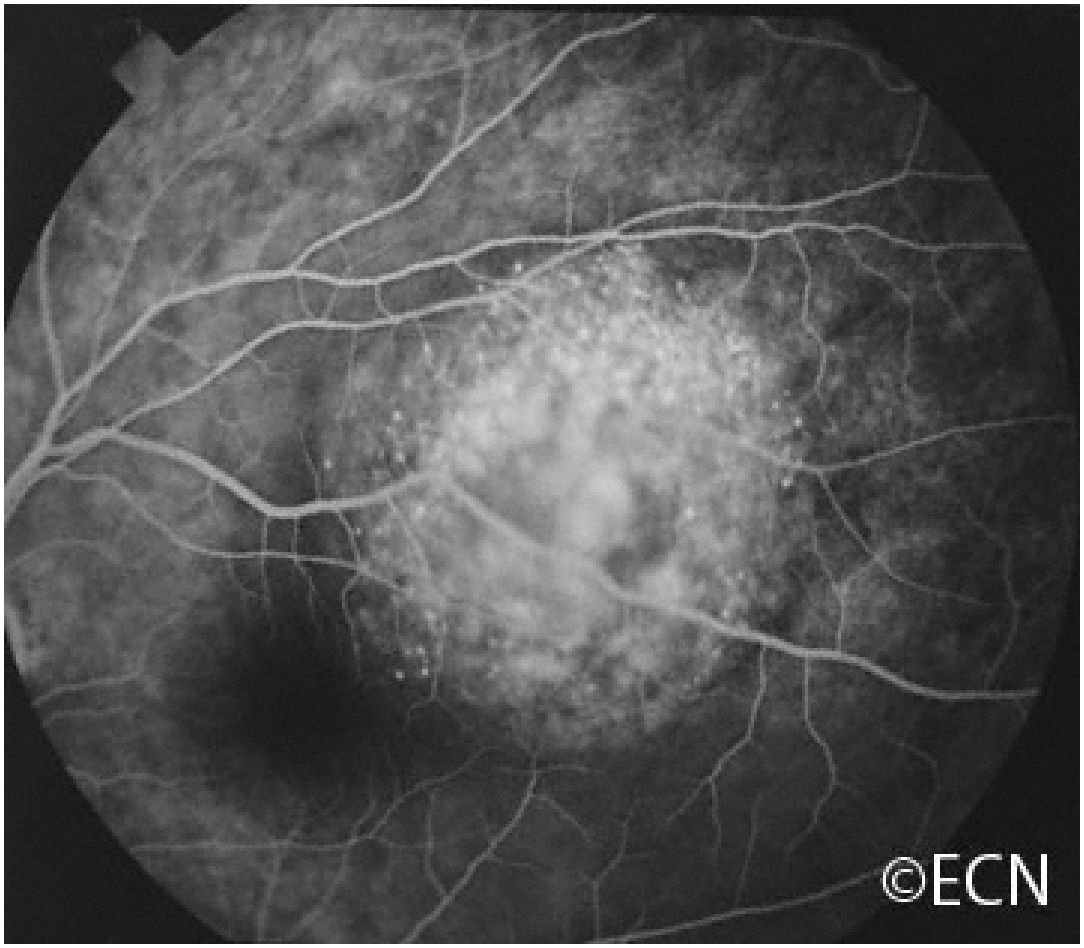
Choroidal Nevus vs Melanoma



Choroidal melanoma: FA

Q

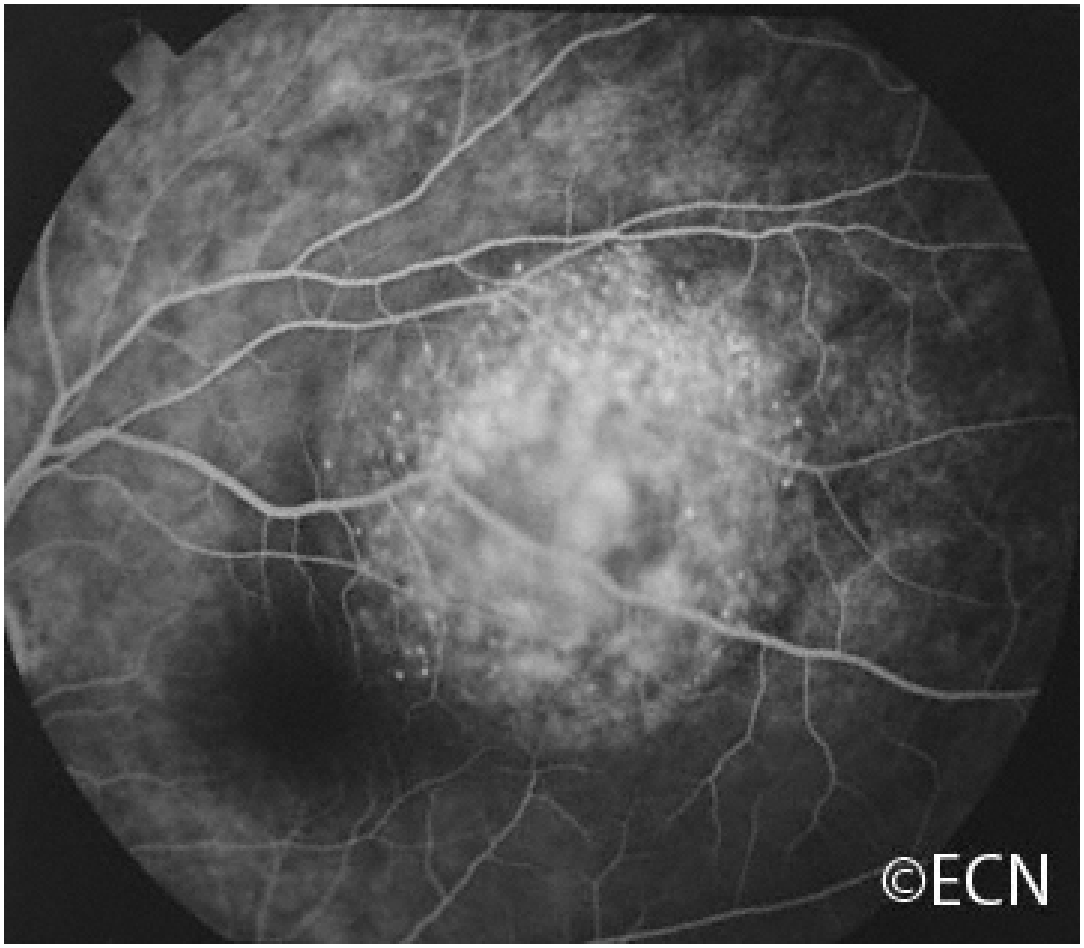
Choroidal Nevus vs Melanoma



Choroidal melanoma?

A

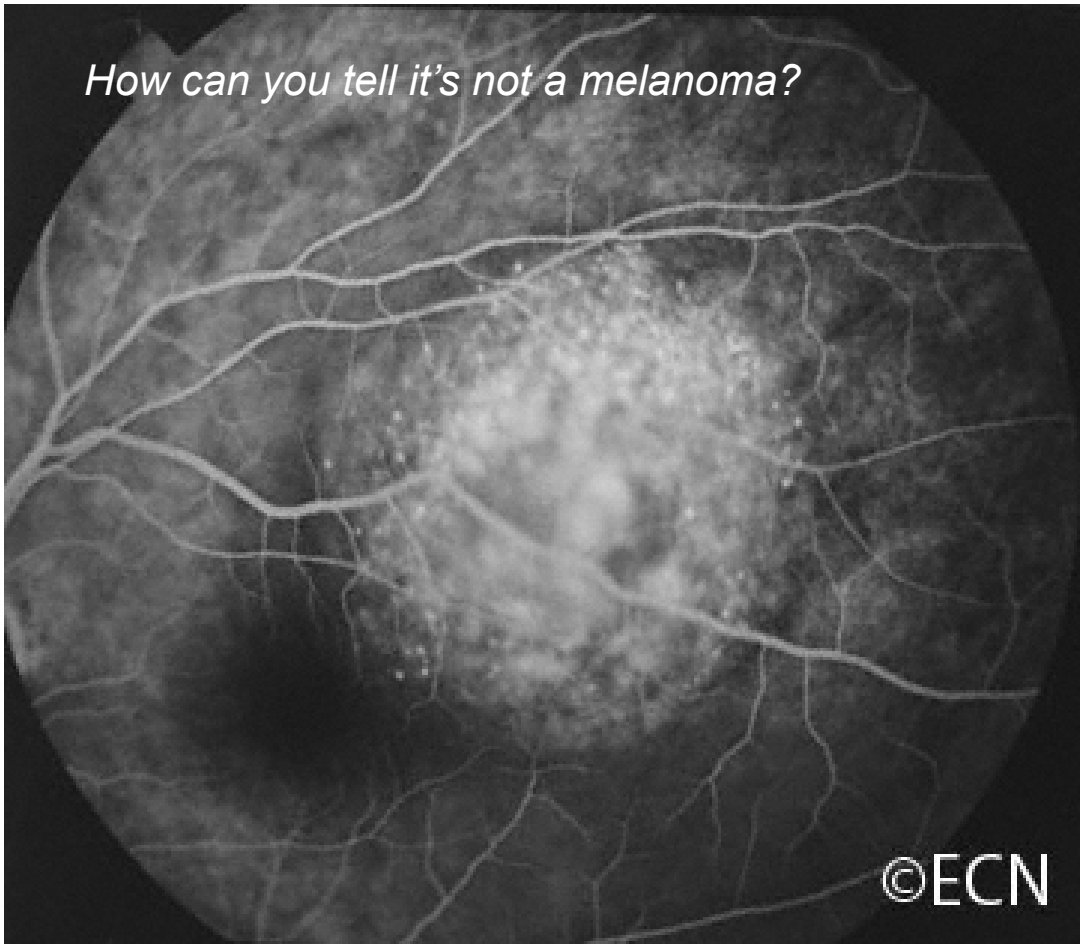
Choroidal Nevus vs Melanoma



Choroidal melanoma? No, this is a metastatic choroidal tumor

Q

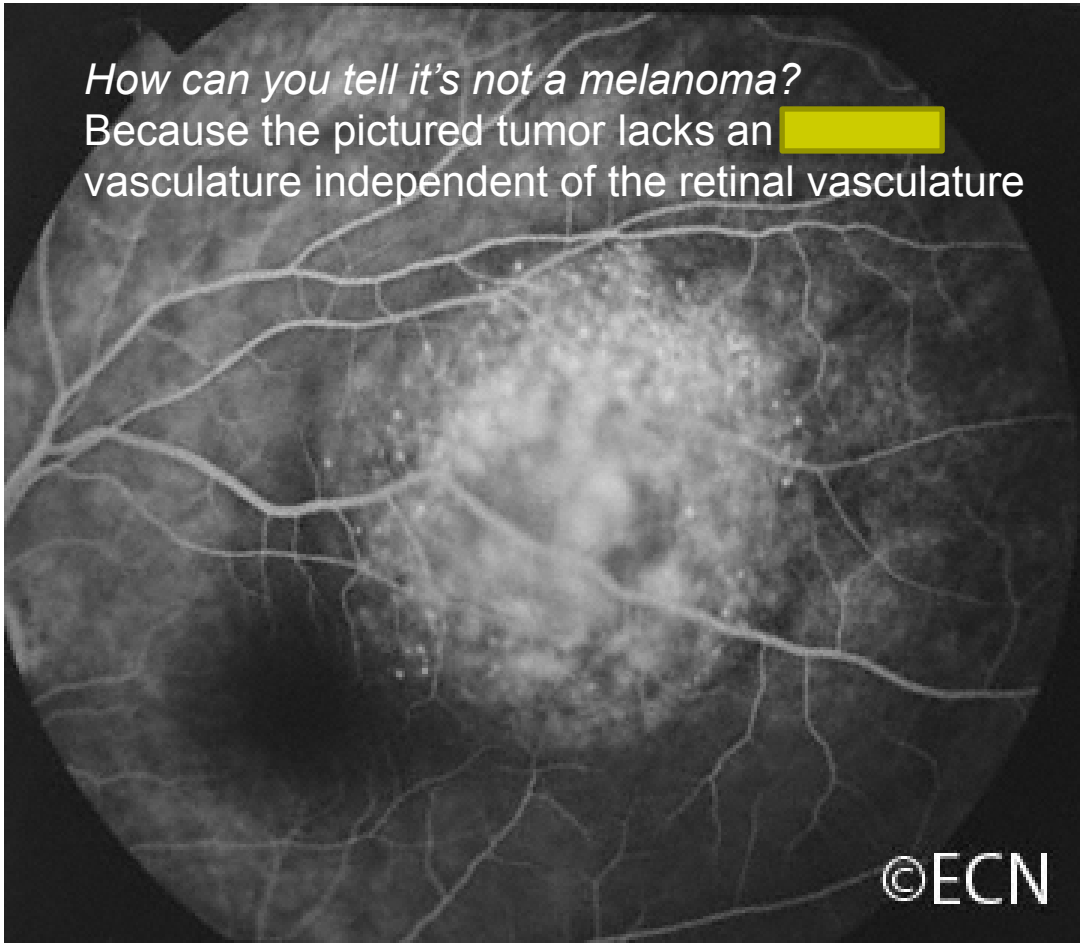
Choroidal Nevus vs ***Melanoma***



Choroidal melanoma? No, this is a metastatic choroidal tumor

Q/A

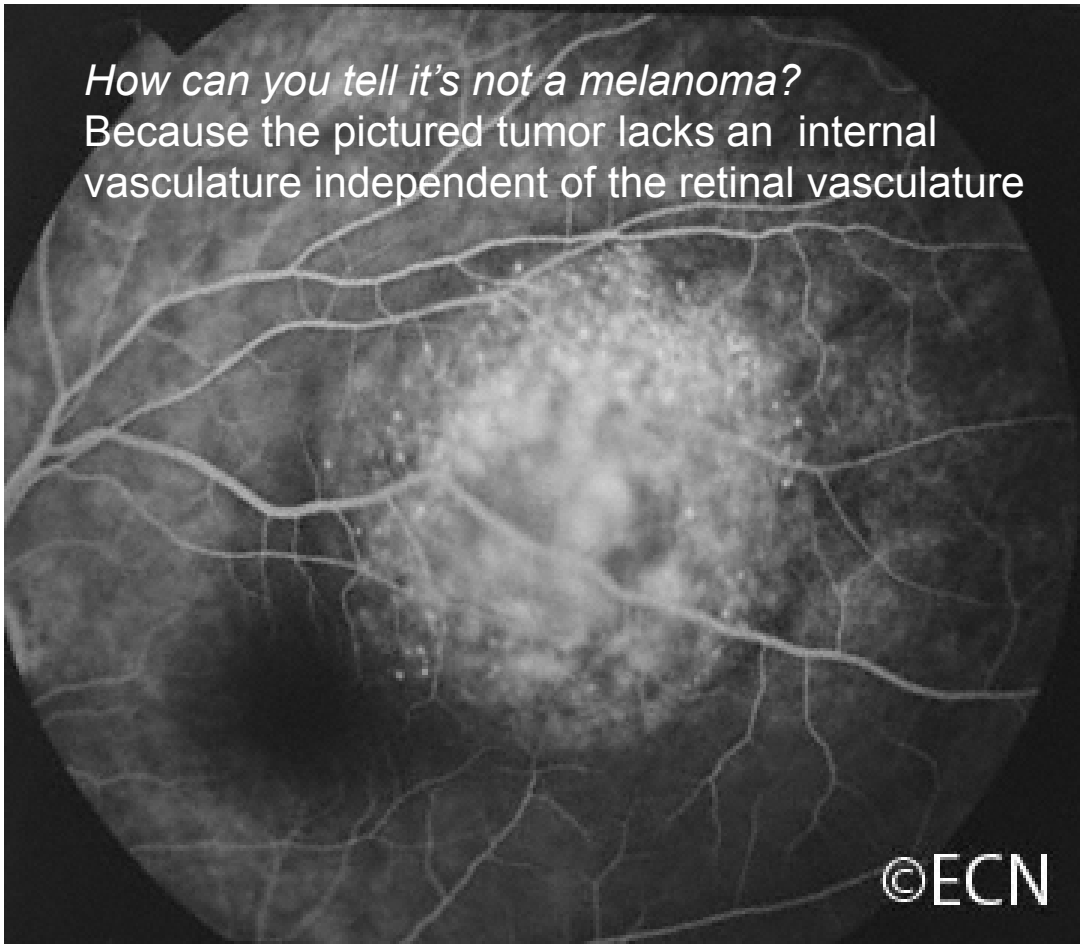
Choroidal Nevus vs Melanoma



Choroidal melanoma? No, this is a metastatic choroidal tumor

A

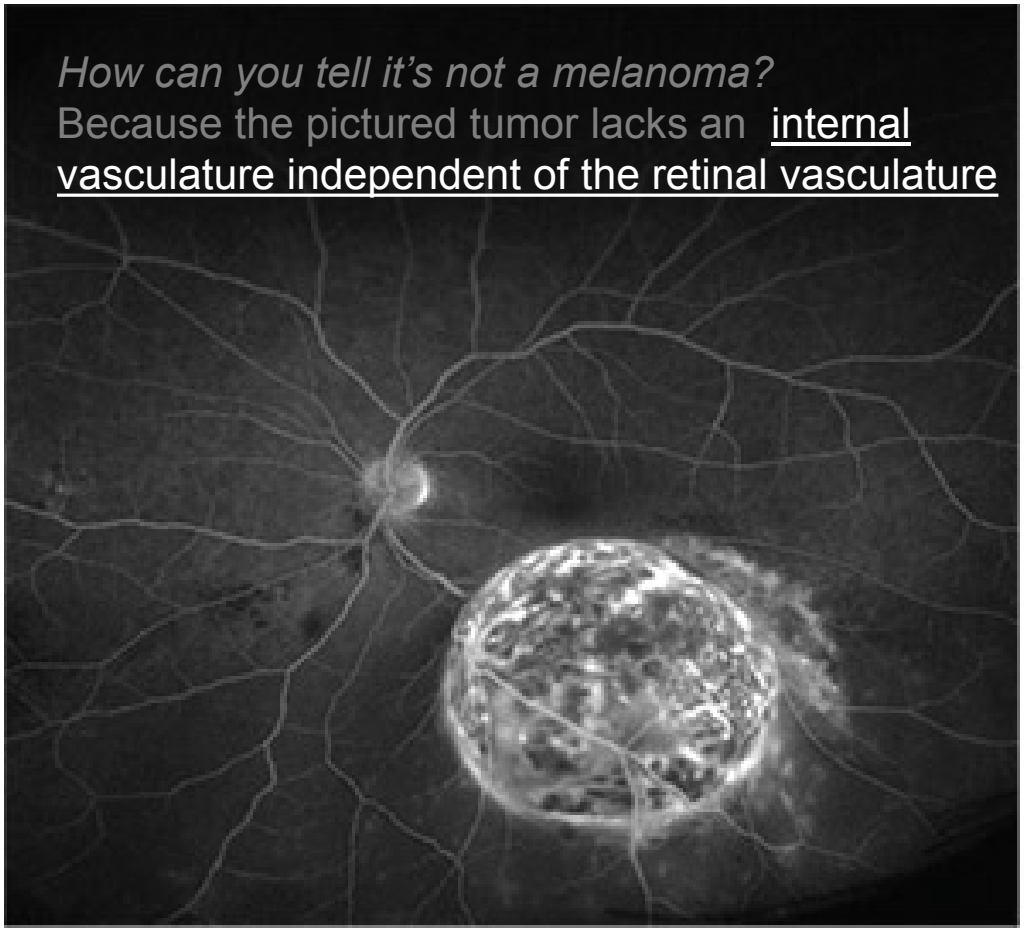
Choroidal Nevus vs ***Melanoma***



Choroidal melanoma? No, this is a metastatic choroidal tumor

Q

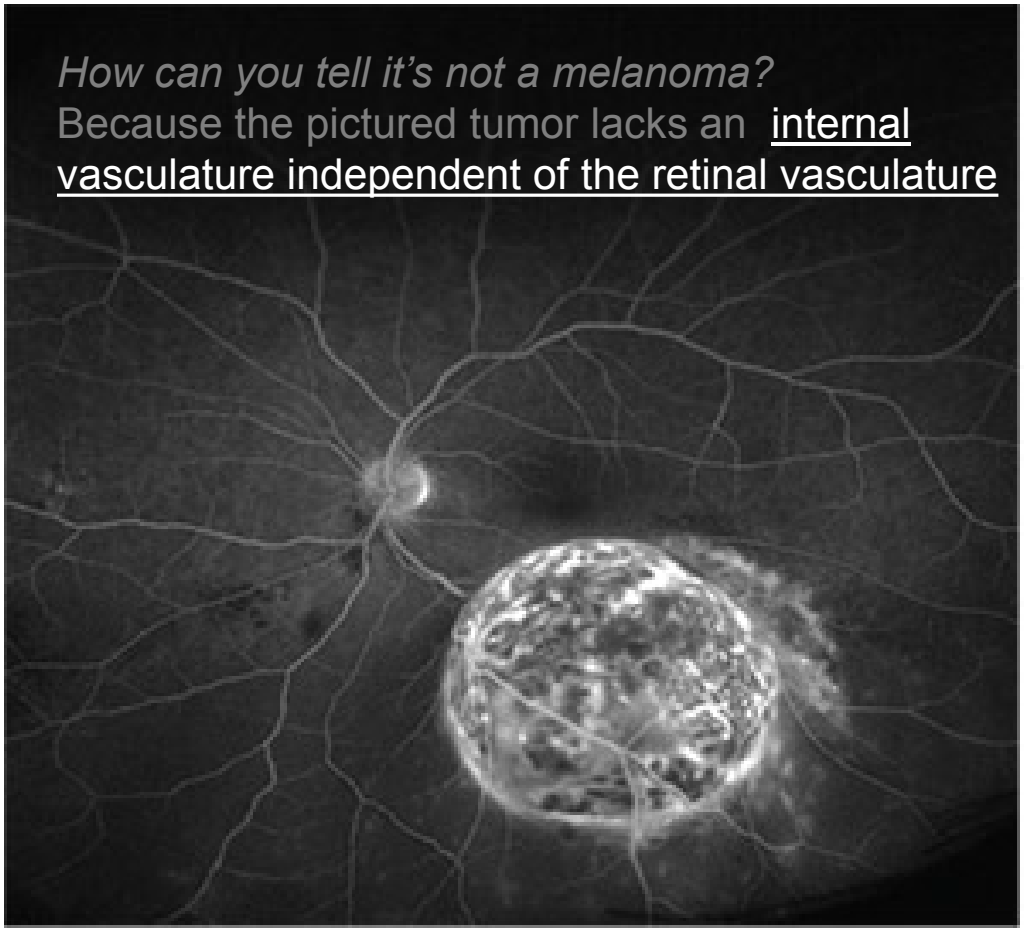
Choroidal Nevus vs Melanoma



This is the so-called [two words] pattern, ie, an internal circulation within the lesion *and* the normal vascularity of the overlying retina.

A

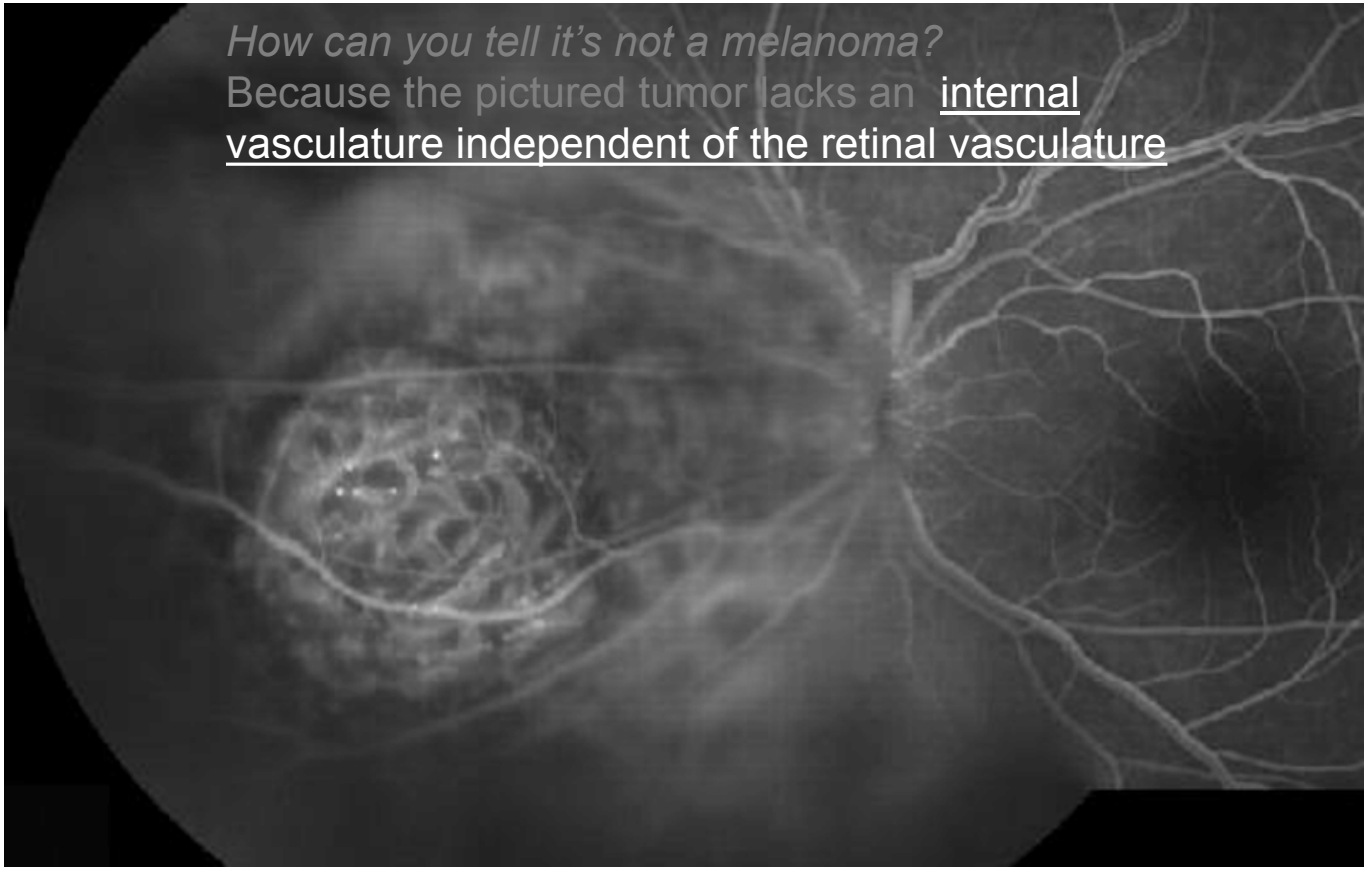
Choroidal Nevus vs Melanoma



This is the so-called 'double circulation' pattern, ie, an internal circulation within the lesion *and* the normal vascularity of the overlying retina.

Q

Choroidal Nevus vs Melanoma

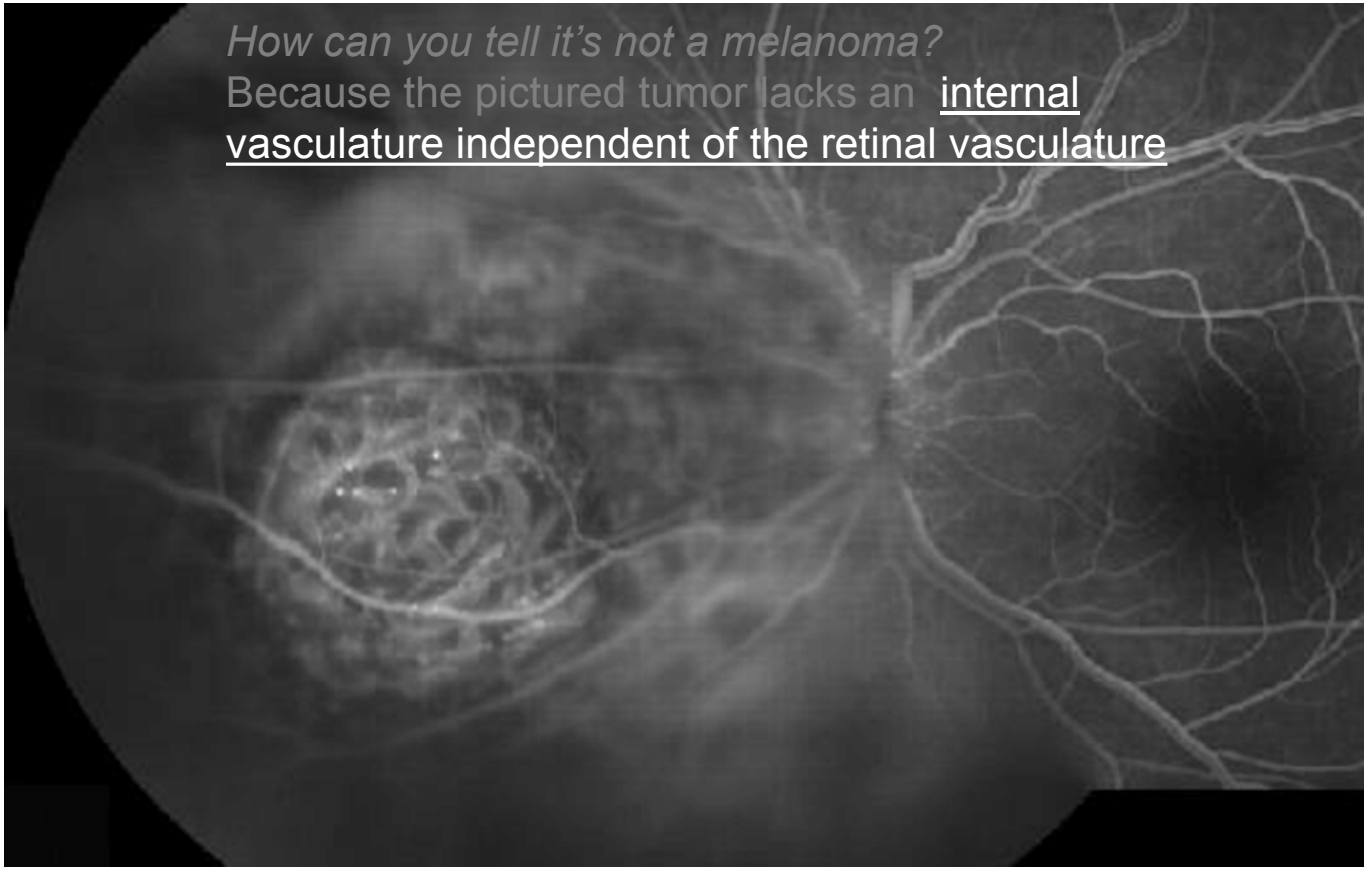


This is the so-called 'double circulation' pattern, ie, an internal circulation within the lesion *and* the normal vascularity of the overlying retina.

The double circulation pattern is most apparent on abb. angiography (above)

A

Choroidal Nevus vs Melanoma



This is the so-called 'double circulation' pattern, ie, an internal circulation within the lesion *and* the normal vascularity of the overlying retina.

The double circulation pattern is most apparent on ICG angiography (above)

Q

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is

A

Choroidal Nevus vs Melanoma

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  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is ultrasound

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is **ultrasound**

We talking here about a-*scan, or* b-*scan?*

A

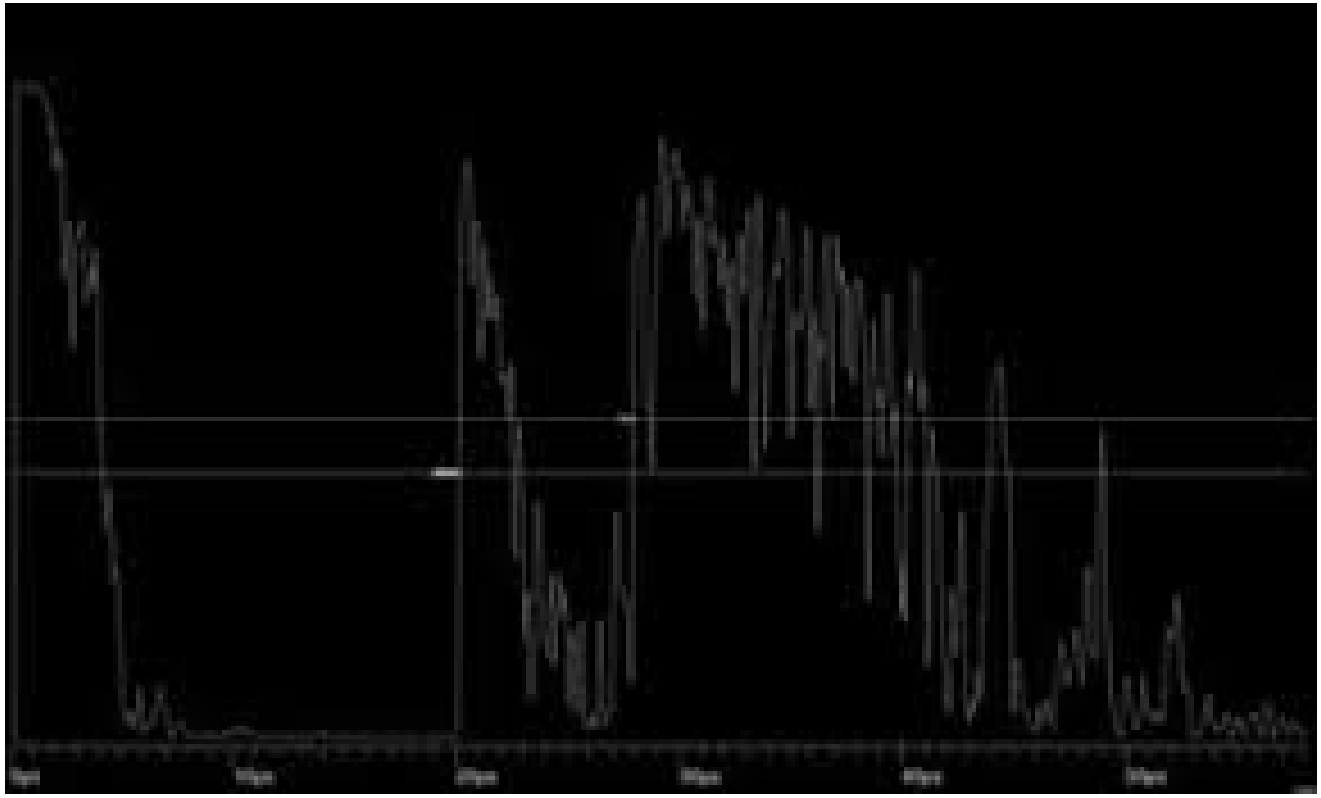
Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is **ultrasound**

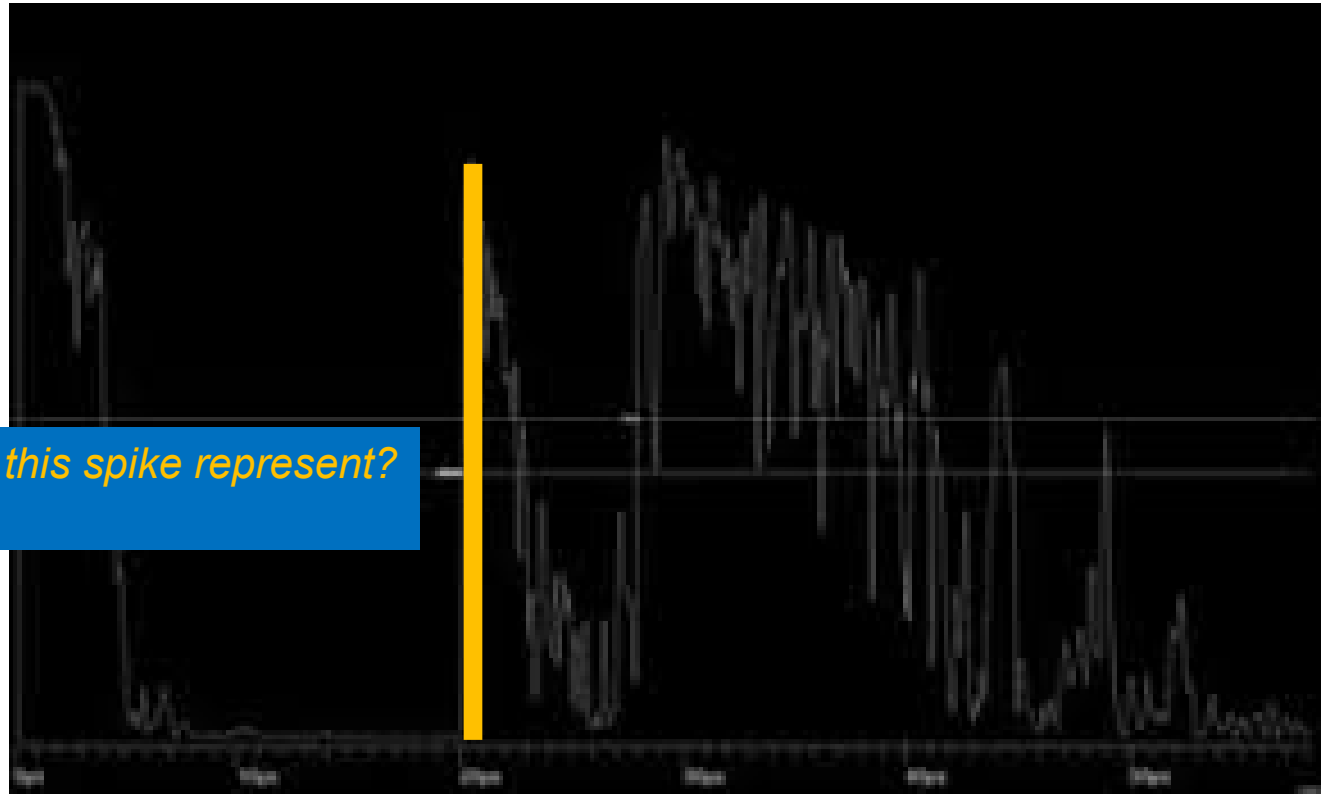
We talking here about a-*scan, or* b-*scan?*
Both

Choroidal Nevus vs Melanoma



This is an *a*-scan of a choroidal melanoma.

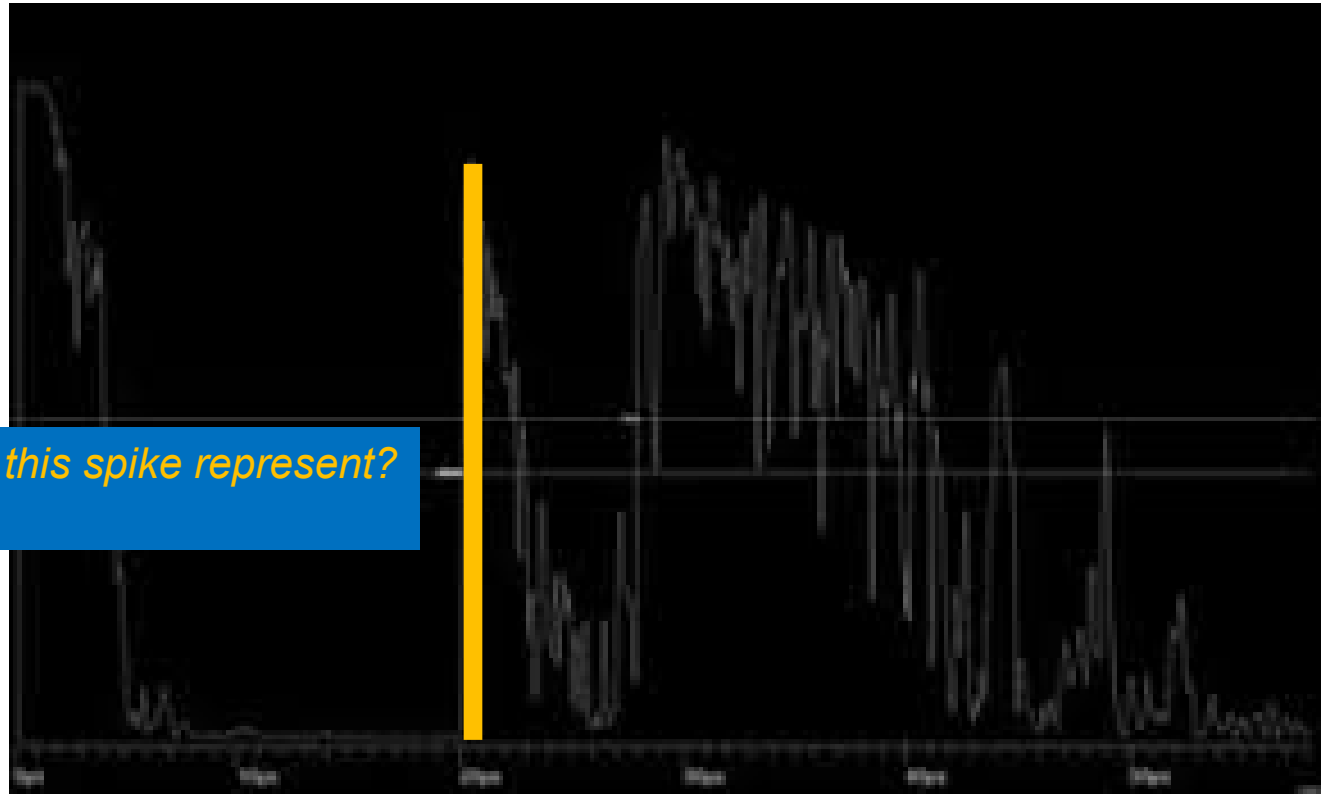
Choroidal Nevus vs Melanoma



What does this spike represent?

This is an *a*-scan of a choroidal melanoma.

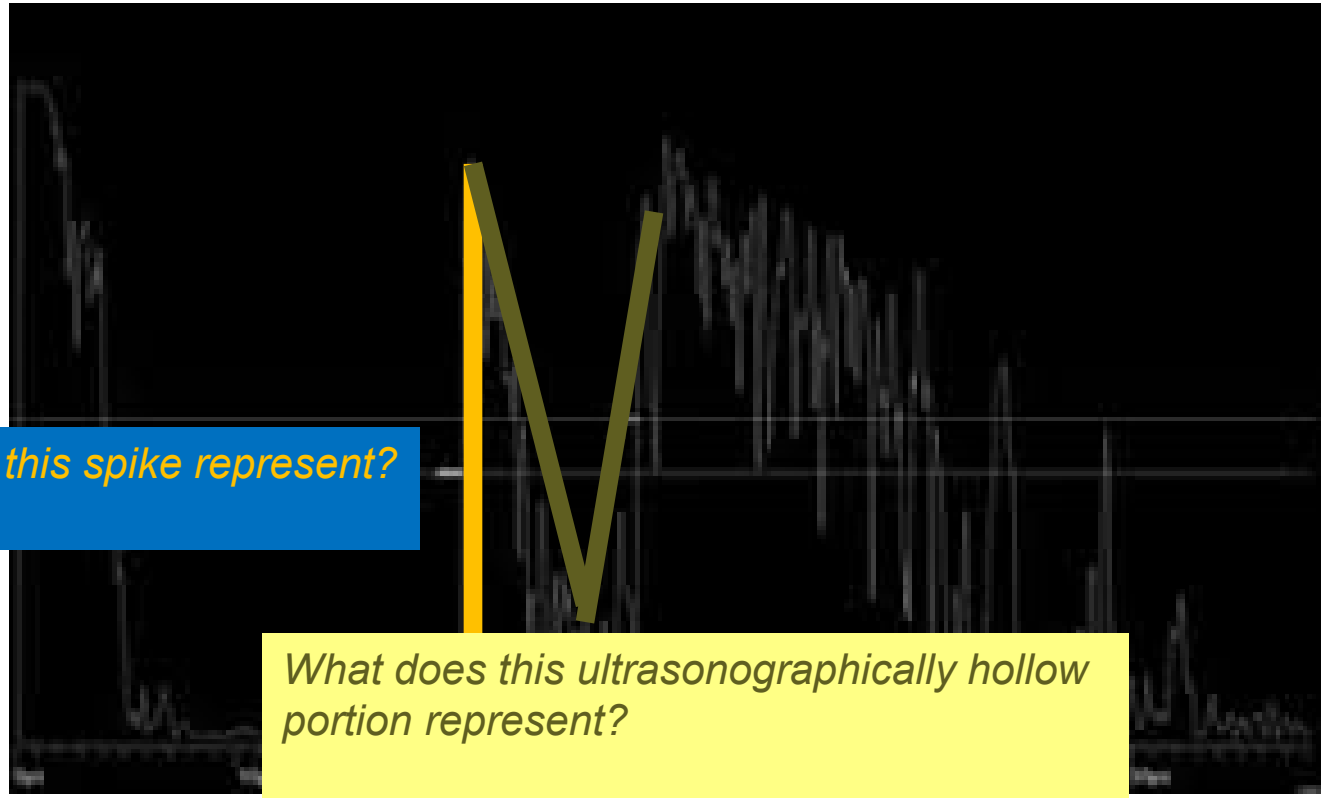
Choroidal Nevus vs Melanoma



What does this spike represent?
The retina

This is an *a*-scan of a choroidal melanoma.

Choroidal Nevus vs ***Melanoma***

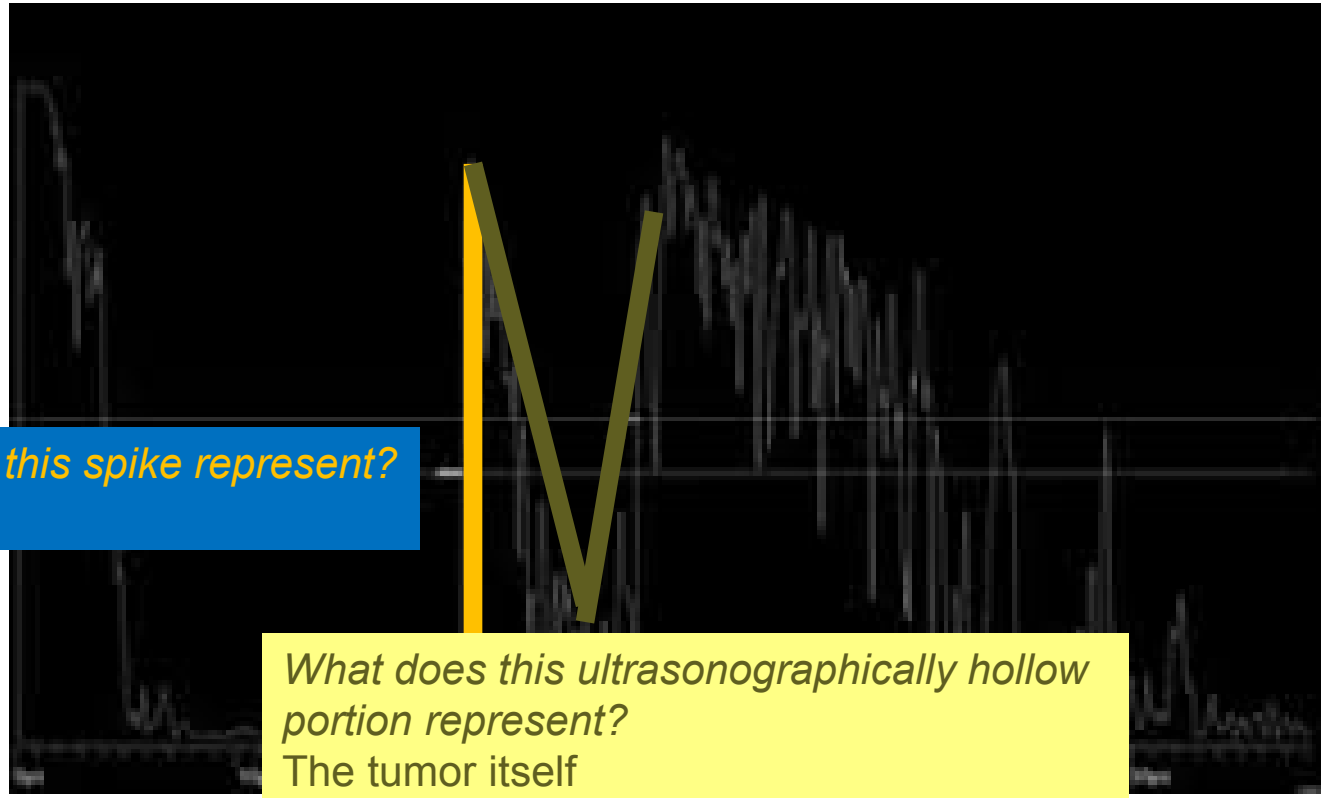


What does this spike represent?
The retina

What does this ultrasonographically hollow portion represent?

This is an *a*-scan of a choroidal melanoma.

Choroidal Nevus vs ***Melanoma***

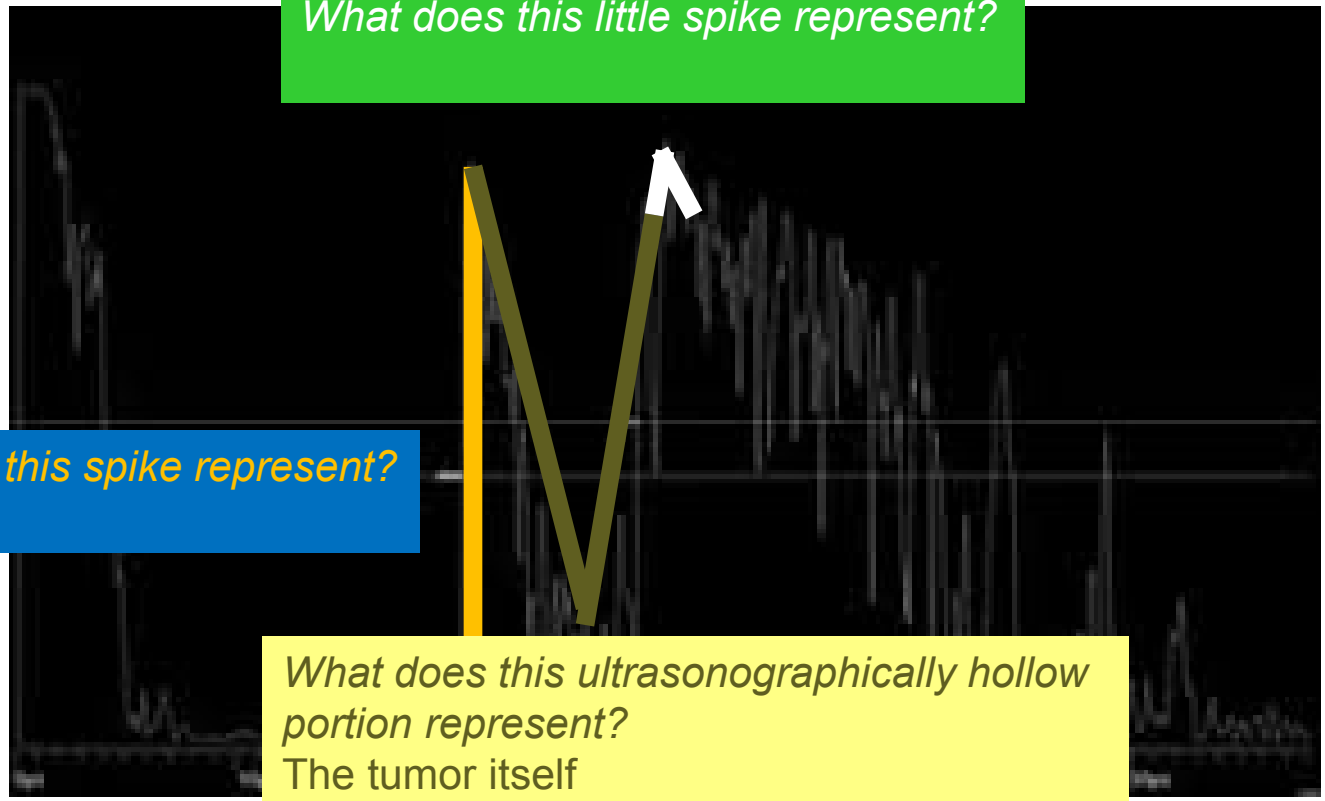


What does this spike represent?
The retina

What does this ultrasonographically hollow portion represent?
The tumor itself

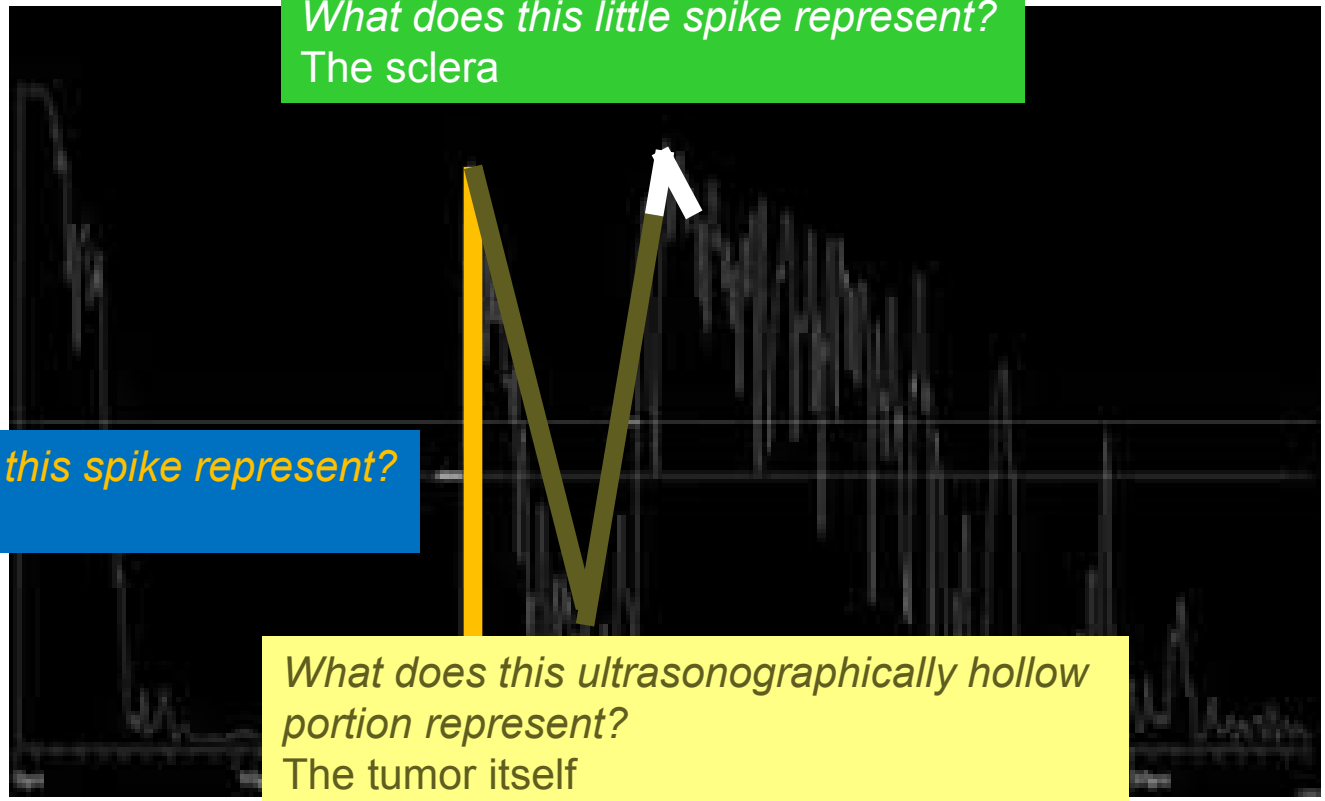
This is an *a*-scan of a choroidal melanoma.

Choroidal Nevus vs ***Melanoma***



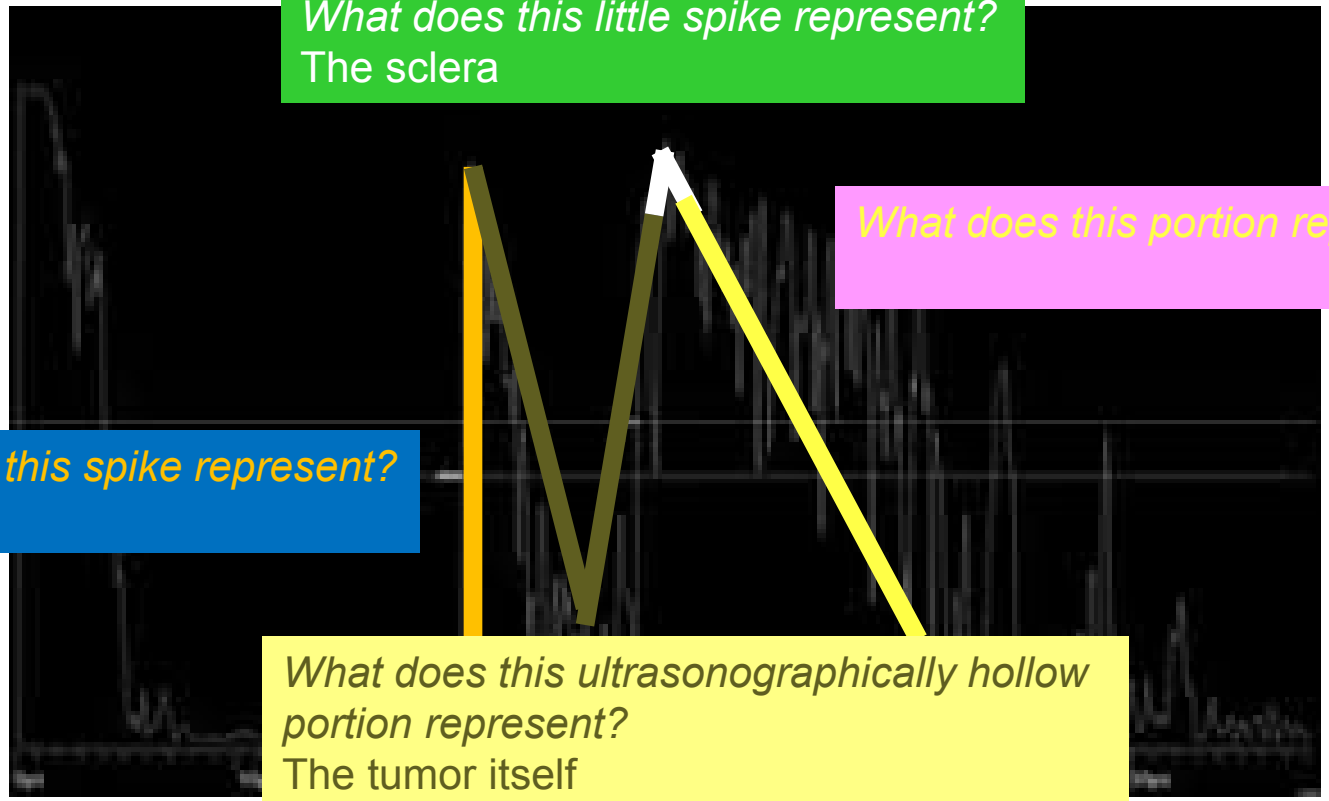
This is an *a*-scan of a choroidal melanoma.

Choroidal Nevus vs ***Melanoma***



This is an *a*-scan of a choroidal melanoma.

Choroidal Nevus vs ***Melanoma***



What does this little spike represent?
The sclera

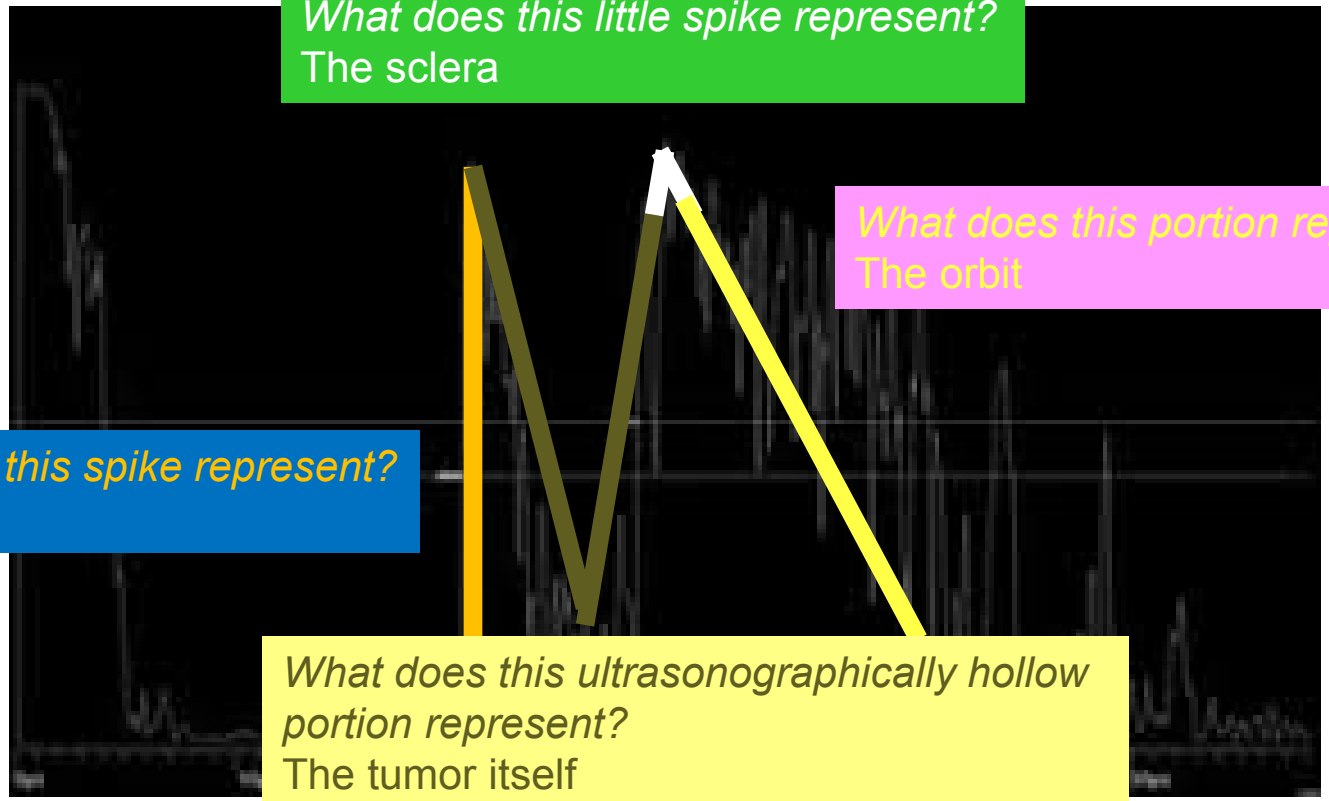
What does this portion represent?

What does this spike represent?
The retina

What does this ultrasonographically hollow portion represent?
The tumor itself

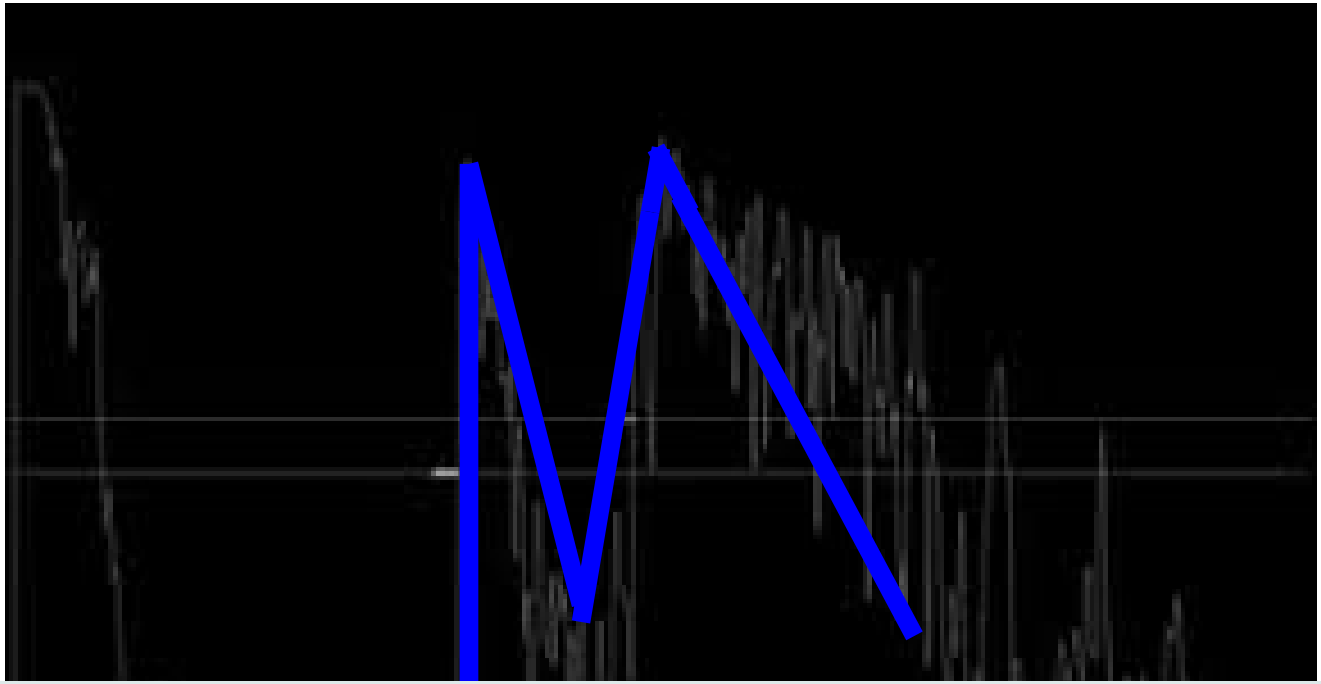
This is an *a*-scan of a choroidal melanoma.

Choroidal Nevus vs ***Melanoma***



This is an *a*-scan of a choroidal melanoma.

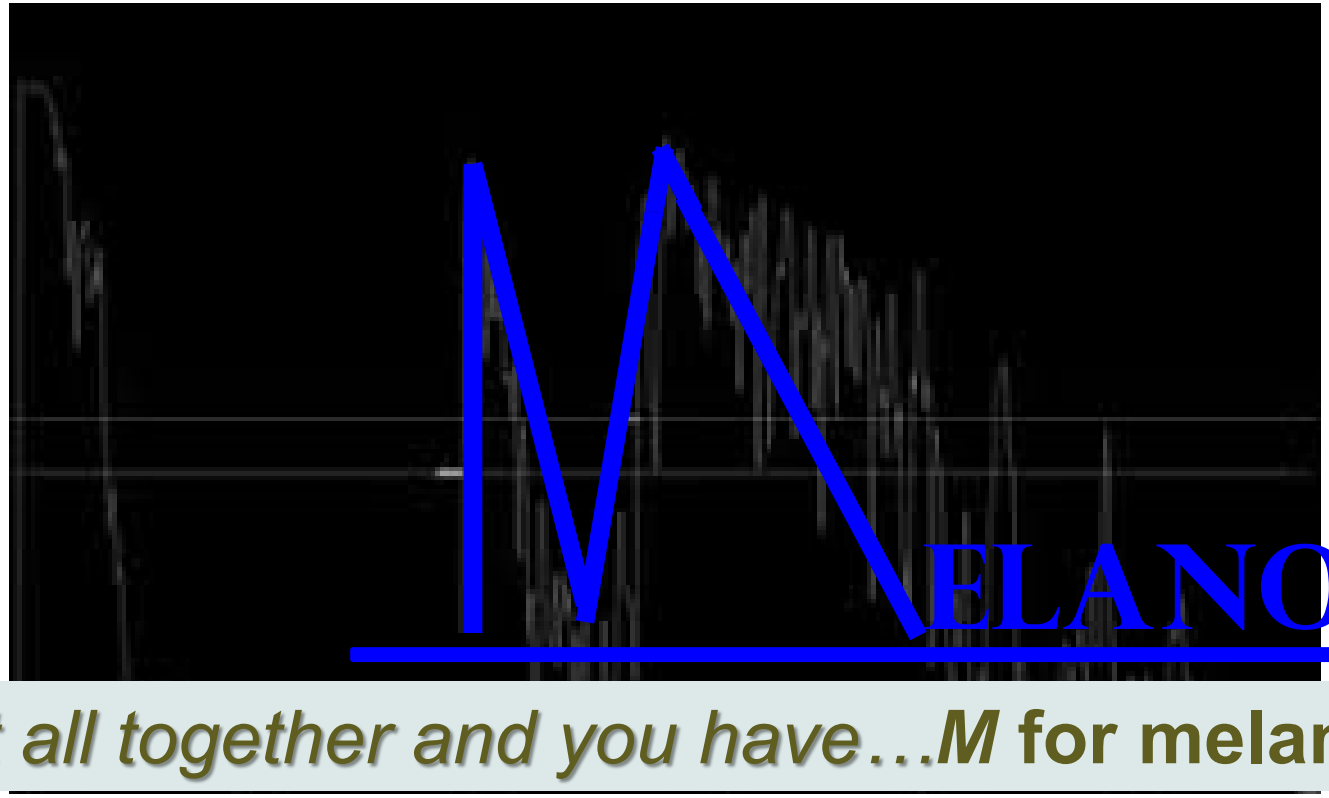
*Choroidal Nevus vs **Melanoma***



Put it all together and you have…

This is an *a*-scan of a choroidal melanoma.

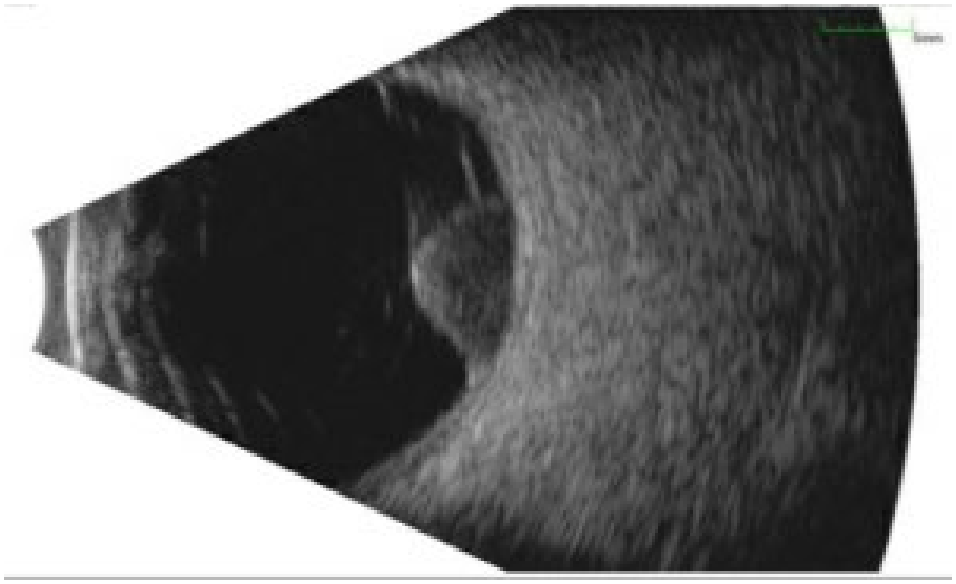
Choroidal Nevus vs ***Melanoma***



***Put it all together and you have…M* for melanoma**

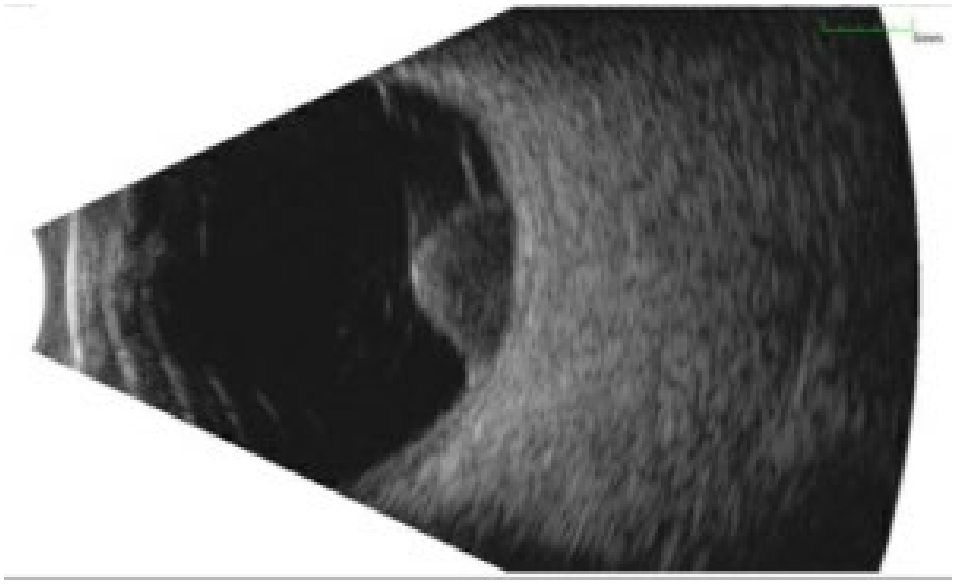
This is an *a*-scan of a choroidal melanoma.

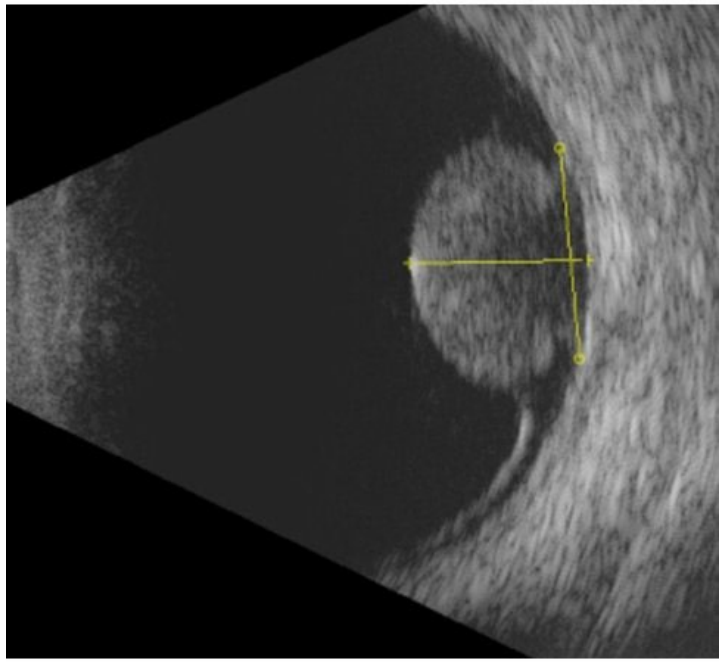
Choroidal Nevus vs Melanoma



Choroidal melanoma, *b*-scan: The dome-shaped is most common.

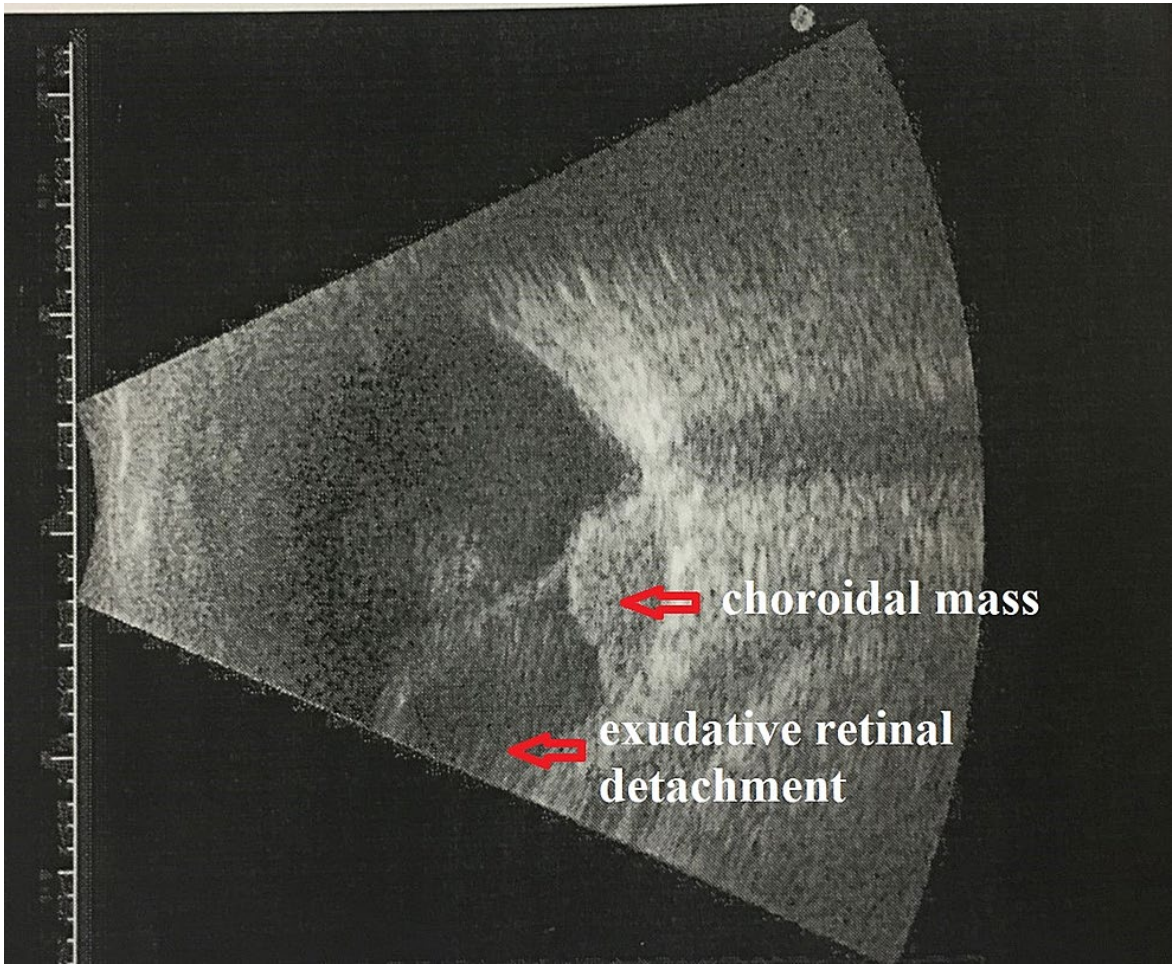
Choroidal Nevus vs Melanoma





Choroidal melanoma, *b*-scan: The dome-shaped is most common.
But the mushroom or ‘collar button’ shape is most classic

Choroidal Nevus vs Melanoma



Choroidal melanoma, *b*-scan: Subretinal fluid can be present, and can even cause an ERD

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is ultrasound
  - CT/MRI are used/not used

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

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  - Gold standard: Indirect ophthalmoscopy
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  - Transillumination is very useful (except for amelanotic tumors)
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  - The #1 ancillary study is ultrasound
  - CT/MRI are not widely used

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

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  - Gold standard: Indirect ophthalmoscopy
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  - OCT: abb. does not penetrate well enough to image it well

A

Choroidal Nevus vs Melanoma

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  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is ultrasound
  - CT/MRI are not widely used
  - OCT: SD-OCT does not penetrate well enough to image it well

Q

Choroidal Nevus vs Melanoma

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  - Gonio to check for anterior tumors
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  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
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  - CT/MRI are not widely used
  - OCT: SD-OCT does not penetrate well enough to image it well, but abb. does

A

Choroidal Nevus vs Melanoma

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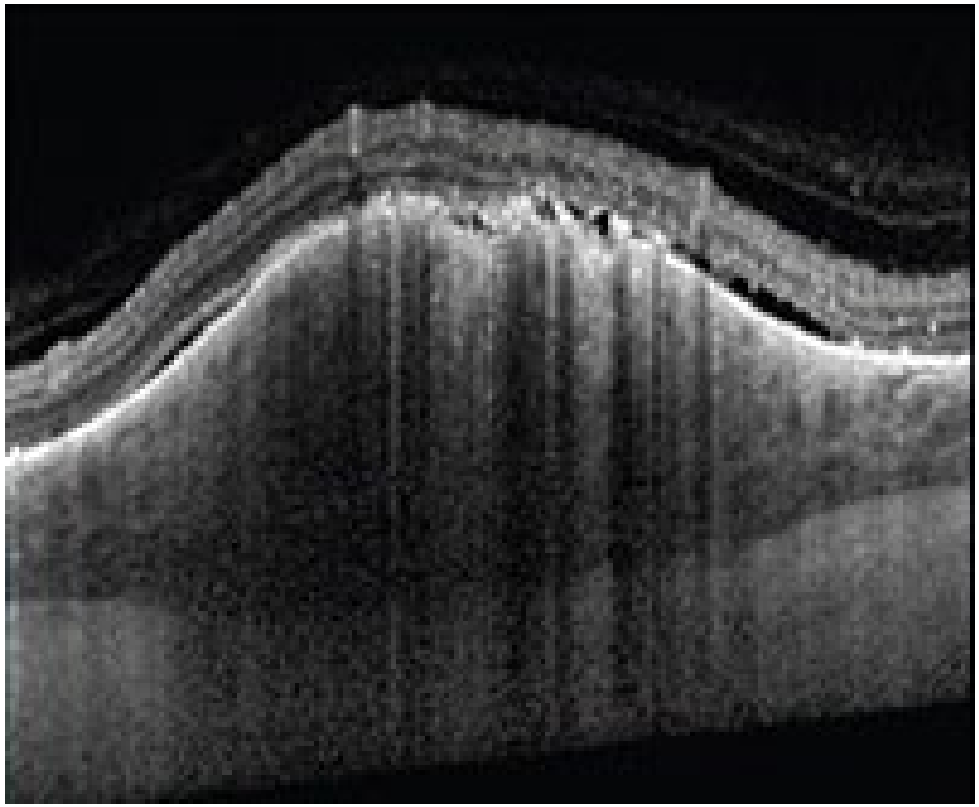
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - The #1 ancillary study is ultrasound
  - CT/MRI are not widely used
  - OCT: SD-OCT does not penetrate well enough to image it well, but EDI-OCT does

Choroidal Nevus vs Melanoma



Choroidal melanoma, EDI-OCT

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - *What do* SD*(OCT) and* EDI*(OCT) stand for in this context?*
  - *--**SD**-OCT?*
  - *--**EDI**-OCT?*
  - OCT: **SD-OCT** does not penetrate well enough to image it well, but **EDI-OCT** does

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Clinical evaluation:
  - Gold standard: Indirect ophthalmoscopy
  - Gonio to check for anterior tumors
  - Transillumination is very useful (except for amelanotic tumors)
  - Classic FA pattern: Late hyperfluorescence (if not present, question the diagnosis)
  - *What do* SD*(OCT) and* EDI*(OCT) stand for in this context?*
  - *--**SD**-OCT?* Spectral domain
  - *--**EDI**-OCT?* Enhanced depth imaging
  - OCT: **SD-OCT** does not penetrate well enough to image it well, but **EDI-OCT** does

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the eponym *classification system*

A

Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the *Callender classification system*

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the *Callender classification system*
  - Exclusively *spindle A* cells = tumor is called…

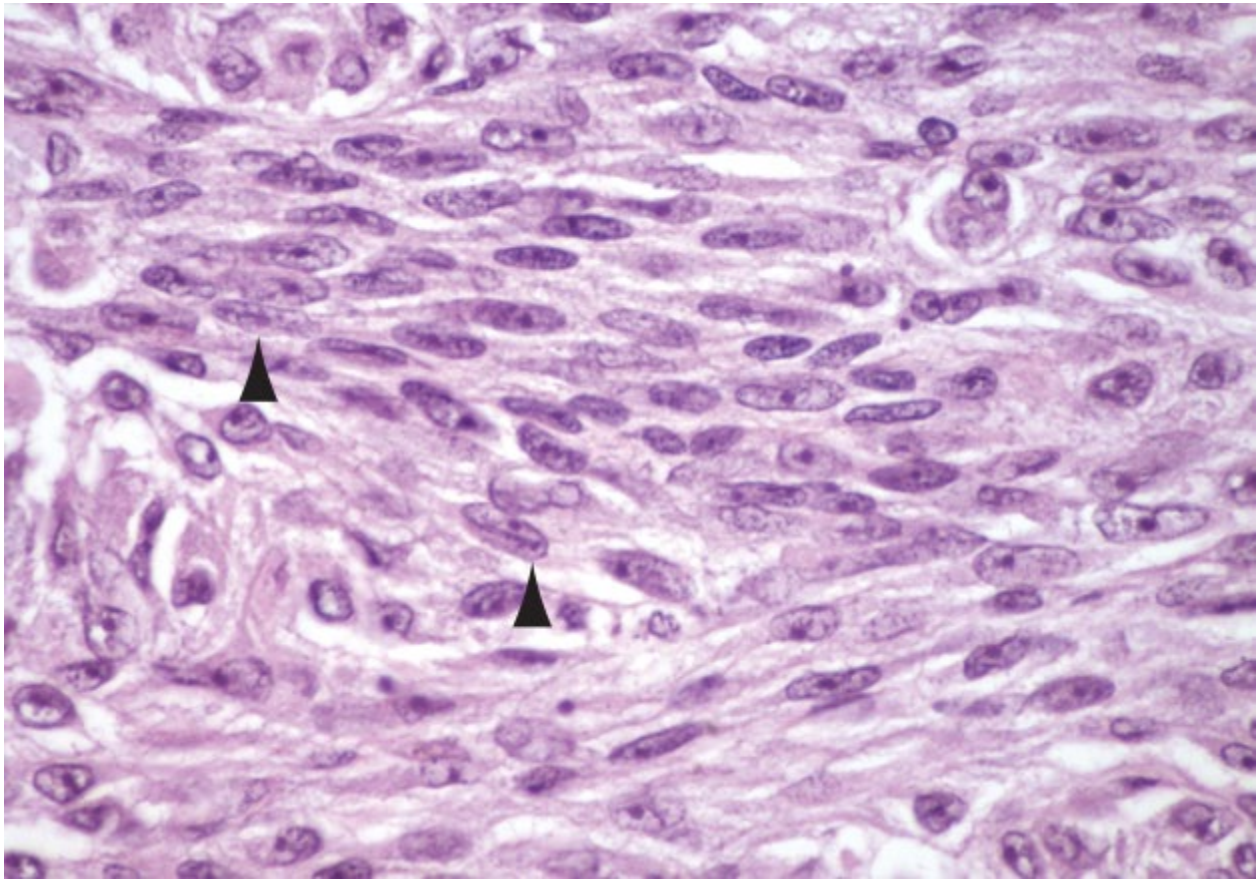
A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the *Callender classification system*
  - Exclusively *spindle A* cells = spindle cell **nevus**

Choroidal Nevus vs Melanoma



Posterior uveal melanoma. Spindle-A melanoma cells have slender, elongated nuclei with small nucleoli. A central stripe may be present down the long axis of the nucleus *(arrowheads)* (H&E stain).

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the *Callender classification system*
  - Exclusively *spindle A* cells = spindle cell **nevus**
  - *Spindle A + B* cells = tumor is called…

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

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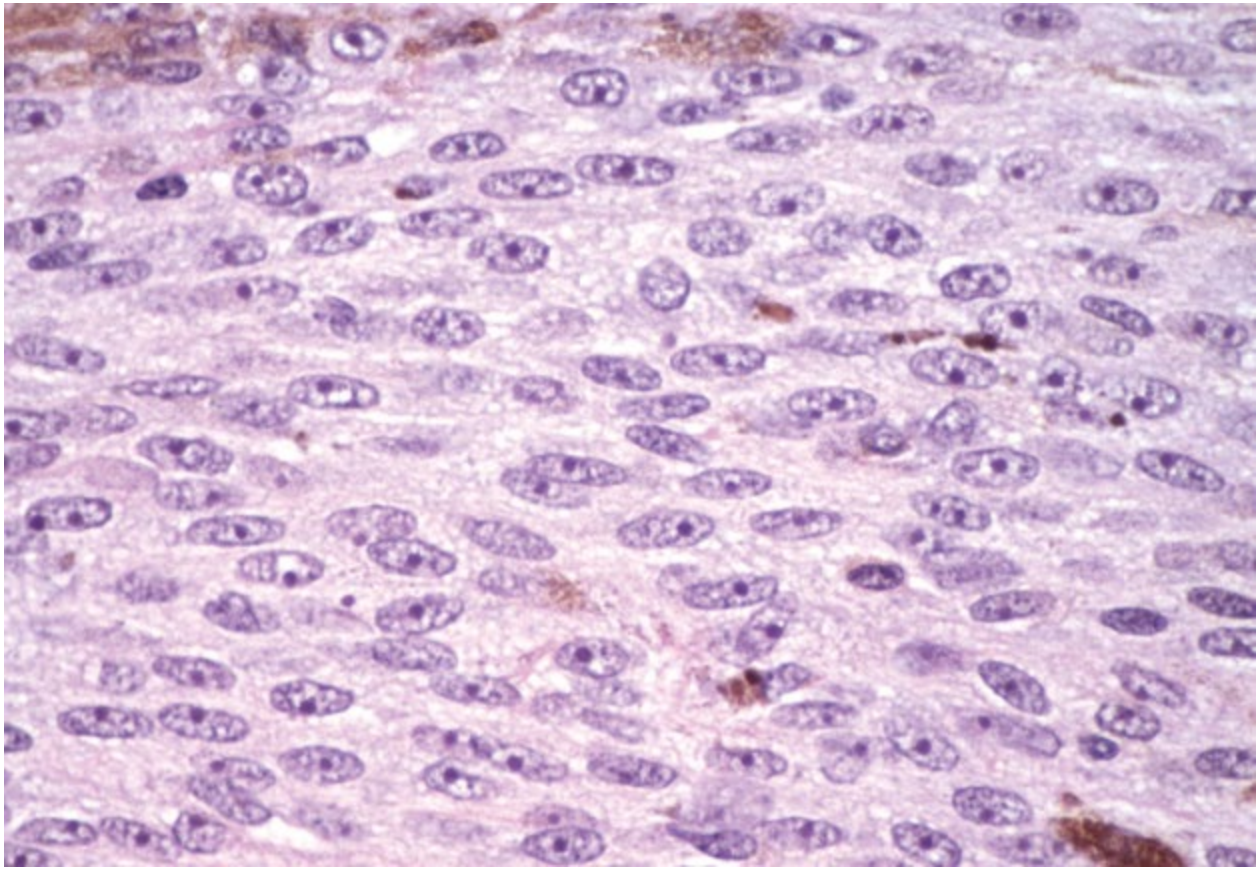
Choroidal Nevus vs Melanoma



Posterior uveal melanoma. In spindle-B melanoma cells, coarse, granular chromatin and plump, large nuclei are seen. Nucleoli are prominent. Mitoses may be present, though not in large numbers.

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- Categorization by cytology is known as the *Callender classification system*
  - Exclusively *spindle A* cells = spindle cell **nevus**
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  - *Spindle + epithelioid* cells = tumor is called…

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  - *Epithelioid* cells = tumor is called…

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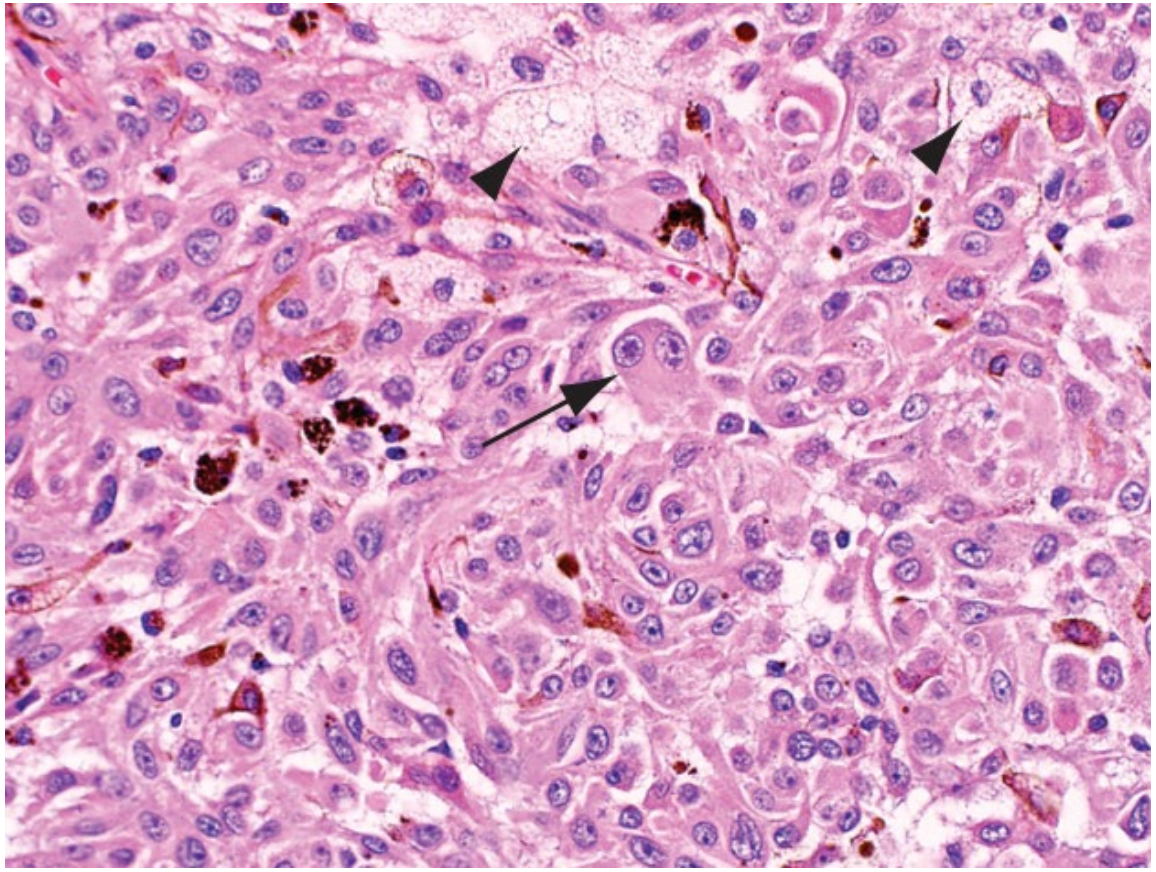
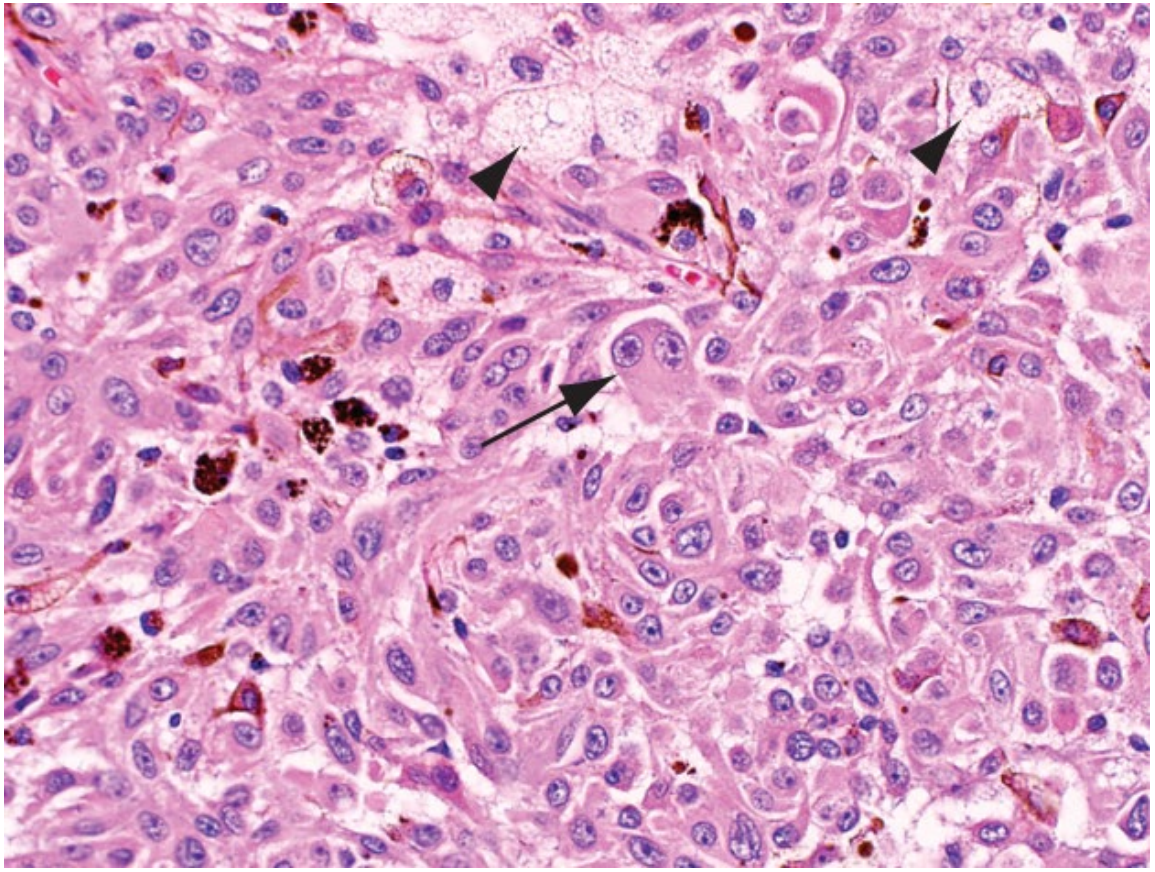
Choroidal Nevus vs Melanoma



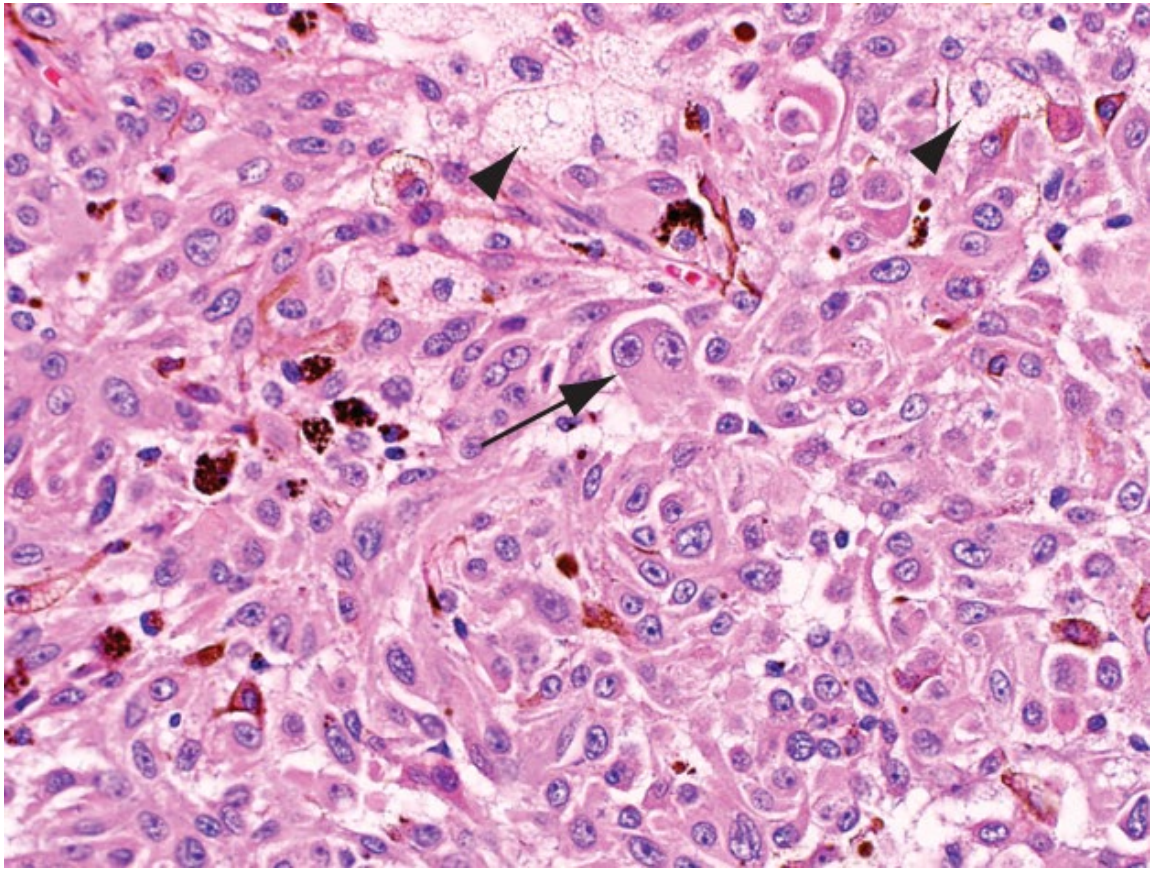
Posterior uveal melanoma. Epithelioid melanoma cells resemble epithelium because of their abundant eosinophilic cytoplasm and enlarged round to oval nuclei.

Choroidal Nevus vs Melanoma



Posterior uveal melanoma. Epithelioid melanoma cells resemble epithelium because of their abundant eosinophilic cytoplasm and enlarged round to oval nuclei. They lack cohesiveness and demonstrate marked pleomorphism, including the formation of multinucleated tumor cells *(arrow).*

Choroidal Nevus vs Melanoma



Posterior uveal melanoma. Epithelioid melanoma cells resemble epithelium because of their abundant eosinophilic cytoplasm and enlarged round to oval nuclei. They lack cohesiveness and demonstrate marked pleomorphism, including the formation of multinucleated tumor cells *(arrow).* Note the balloon cells *(arrowheads)* with abundant foamy cytoplasm.

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

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  - Exclusively *spindle A* cells = spindle cell **nevus**
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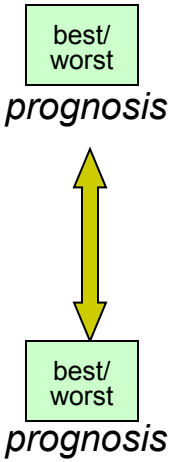

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Best prognosis

Worst prognosis

Q

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Best prognosis

Worst prognosis

- Categorization by size (mm)

	Basal diameter	Apical height
Small	*?*	*?*
Medium		
Large		

A

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Best prognosis

Worst prognosis

- Categorization by size (mm)

	Basal diameter	Apical height
Small	5-16	1 - 2.5
Medium		
Large		

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

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Worst prognosis

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Small	5-16	1 - 2.5
Medium	***?***	***?***
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Best prognosis

Worst prognosis

- Categorization by size (mm)

	Basal diameter	Apical height
Small	5-16	1 - 2.5
Medium	<16	2.5 - 10
Large		

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	Basal diameter	Apical height
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Medium	<16	2.5 - 10
Large	***?***	***?***

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	Basal diameter	Apical height
Small	5-16	1 - 2.5
Medium	<16	2.5 - 10
Large	>16	>10

Q

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Best prognosis

Worst prognosis

- Categorization by size (mm)

	Basal diameter	Apical height	5-year survival (%)
Small	5-16	1 - 2.5	***?***
Medium	<16	2.5 - 10	
Large	>16	>10	

A

Choroidal Nevus vs Melanoma

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Best prognosis

Worst prognosis

- Categorization by size (mm)

	Basal diameter	Apical height	5-year survival (%)
Small	5-16	1 - 2.5	90
Medium	<16	2.5 - 10	
Large	>16	>10	

Q

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Best prognosis

Worst prognosis

- Categorization by size (mm)

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Small	5-16	1 - 2.5	90
Medium	<16	2.5 - 10	***?***
Large	>16	>10	

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Best prognosis

Worst prognosis

- Categorization by size (mm)

	Basal diameter	Apical height	5-year survival (%)
Small	5-16	1 - 2.5	90
Medium	<16	2.5 - 10	70
Large	>16	>10	

Q

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Small	5-16	1 - 2.5	90
Medium	<16	2.5 - 10	70
Large	>16	>10	***?***

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Best prognosis

Worst prognosis

- Categorization by size (mm)

	Basal diameter	Apical height	5-year survival (%)
Small	5-16	1 - 2.5	90
Medium	<16	2.5 - 10	70
Large	>16	>10	50

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…

easy to overlook, but very important

A

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…

surprising finding

COMS = Collaborative Ocular Melanoma Study--we'll touch on it later this slide-set. (It also has its own set of review slides.)

A

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!
  - Must r/o whether patient is…

issue of concern with any malignancy

A

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!
  - Must r/o whether patient is…
    already metastatic from their ocular melanoma

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!
  - Must r/o whether patient is…
    already metastatic from their ocular melanoma
- Pre-treatment evaluation:
  - Complete PE *(physical exam)*
  - key imaging study
  - key lab study
  - CT/MRI: routine?

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!
  - Must r/o whether patient is…
    already metastatic from their ocular melanoma
- Pre-treatment evaluation:
  - Complete PE
  - CXR *(chest X-ray)*
  - LFTs *(liver function tests)*
  - CT/MRI: Perform as indicated (***not*** as routine)

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!
  - Must r/o whether patient is…
    already metastatic from their ocular melanoma
- Pre-treatment evaluation:
  - Complete PE
  - CXR
  - LFTs
  - CT/MRI: Perform ~~as indicated (***not*** as routine)~~

Note: Some experts disagree, arguing that imaging of the liver should be performed at the time of diagnosis as a matter of routine.

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!
  - Must r/o whether patient is…
    already metastatic from their ocular melanoma
- P
  - *What percentage of ocular melanoma have demonstrable metastatic disease at the time of diagnosis?*
  -
  -
  -
  - CT/MRI: Perform as indicated (***not*** as routine)

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!
  - Must r/o whether patient is…
    already metastatic from their ocular melanoma
- P
  - *What percentage of ocular melanoma have demonstrable metastatic disease at the time of diagnosis?*
    Only 2%
  - CT/MRI: Perform as indicated (***not*** as routine)

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
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  - Must r/o whether patient is…
    already metastatic from their ocular melanoma
- P
  - *What percentage of ocular melanoma have demonstrable metastatic disease at the time of diagnosis?*
    Only 2%
  - *What percentage have occult metastatic disease at the time of diagnosis?*
  - CT/MRI: Perform as indicated (***not*** as routine)

A

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Re choroidal/Ciliary Body melanoma…

- ***Prior to treatment:***
  - Make sure patient is…
    healthy enough to withstand treatment
    - In that regard, the COMS found that 10% of patients…
      harbored a second malignancy!
  - Must r/o whether patient is…
    already metastatic from their ocular melanoma
- P
  - *What percentage of ocular melanoma have demonstrable metastatic disease at the time of diagnosis?*
  - Only 2%
  - *What percentage have occult metastatic disease at the time of diagnosis?*
  - Unknown, but is certainly far higher than 2%
  - CT/MRI: Perform as indicated (***not*** as routine)

Q

Re choroidal/Ciliary Body melanoma…

- ***Management***
  - *Observation alone* is acceptable if:
    - Tumor <mm thick

A

Re choroidal/Ciliary Body melanoma…

- ***Management***
  - *Observation alone* is acceptable if:
    - Tumor <1mm thick

Q

Re choroidal/Ciliary Body melanoma…

- ***Management***
  - *Observation alone* is acceptable if:
    - Tumor <1mm thick
    - Patient unable to

A

Re choroidal/Ciliary Body melanoma…

- ***Management***
  - *Observation alone* is acceptable if:
    - Tumor <1mm thick
    - Patient unable to tolerate treatment

Q

Re choroidal/Ciliary Body melanoma…

- ***Management***
  - *Observation alone* is acceptable if:
    - Tumor <1mm thick
    - Patient unable to tolerate treatment
  - surgery is treatment of choice for all large tumors and many medium tumors

A

Re choroidal/Ciliary Body melanoma…

- ***Management***
  - *Observation alone* is acceptable if:
    - Tumor <1mm thick
    - Patient unable to tolerate treatment
  - Enucleation is treatment of choice for all large tumors and many medium tumors

Q

Re choroidal/Ciliary Body melanoma…

- ***Management***
  - *Observation alone* is acceptable if:
    - Tumor <1mm thick
    - Patient unable to tolerate treatment
  - Enucleation is treatment of choice for all large tumors and many medium tumors
  - What are the three modalities of radiation therapy commonly employed?
    -
    -
    -

A

Re choroidal/Ciliary Body melanoma…

- ***Management***
  - *Observation alone* is acceptable if:
    - Tumor <1mm thick
    - Patient unable to tolerate treatment
  - Enucleation is treatment of choice for all large tumors and many medium tumors
  - What are the three modalities of radiation therapy commonly employed?
    - External-beam (XBRT)
    - Plaque therapy
    - Charged-particle

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? yes vs no

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? significant vs not significant

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? significant vs not significant

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? Significantly reduced

Q

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- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? Significantly reduced
  - ***Plaque RT***
    - Tumor control rate? good vs poor

A

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- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
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  - ***Plaque RT***
    - Tumor control rate? Good

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  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
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  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are location

A

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  - ***XBRT***
    - Used as monotherapy? Never
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  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*

Q

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  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? Significantly reduced
  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*
      - specific adverse f/x 1
      - specific adverse f/x 2

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? Significantly reduced
  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*
      - RT retinopathy
      - Optic neuropathy

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? Significantly reduced
  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*
      - RT retinopathy
      - Optic neuropathy
  - **Charged-particle RT**
    - Tumor control rate? good vs poor

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
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  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*
      - RT retinopathy
      - Optic neuropathy
  - **Charged-particle RT**
    - Tumor control rate? Good

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
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    - Used as monotherapy? Never
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      - Effect on rate of orbital recurrence? Significantly reduced
  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*
      - RT retinopathy
      - Optic neuropathy
  - **Charged-particle RT**
    - Tumor control rate? Good
    - Adverse effects are location

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? Significantly reduced
  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*
      - RT retinopathy
      - Optic neuropathy
  - **Charged-particle RT**
    - Tumor control rate? Good
    - Adverse effects are *anterior*

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? Significantly reduced
  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*
      - RT retinopathy
      - Optic neuropathy
  - **Charged-particle RT**
    - Tumor control rate? Good
    - Adverse effects are *anterior*
      - specific adverse f/x 1
      - specific adverse f/x 2

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Management: Radiation therapy:***
  - ***XBRT***
    - Used as monotherapy? Never
    - COMS looked at pre-enucleation XBRT…
      - Effect on overall survival rate? Not significant
      - Effect on rate of orbital recurrence? Significantly reduced
  - ***Plaque RT***
    - Tumor control rate? Good
    - Adverse effects are *posterior*
      - RT retinopathy
      - Optic neuropathy
  - **Charged-particle RT**
    - Tumor control rate? Good
    - Adverse effects are *anterior*
      - Cataracts
      - NVG

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: [redacted]

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior

Q

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called [redacted] *melanoma* particularly poor

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- **Poor** ***prognostic factors:***
  - Location: Anterior
    - So-called *ring* *melanoma* particularly poor

Do uveal melanomas tend to be anterior to the globe equator, or posterior?

Q/A

Re choroidal/Ciliary Body melanoma…

- **Poor** ***prognostic factors:***
  - Location: Anterior
    - So-called *ring* *melanoma* particularly poor

Do uveal melanomas tend to be anterior to the globe equator, or posterior?
A whopping big % are ant. vs post. to the equator

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- **Poor** ***prognostic factors:***
  - Location: Anterior
    - So-called *ring* *melanoma* particularly poor

Do uveal melanomas tend to be anterior to the globe equator, or posterior?
A whopping 85% are posterior to the equator

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented change

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - [redacted] size

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size

Q

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - [redacted] extension

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local

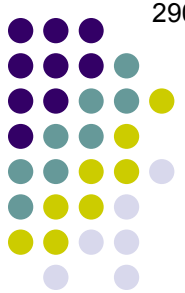
here we go again…

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence



Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type:

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type: Epithelioid

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type: Epithelioid
  - The greater the extent of tumor contact with the ocular structure, the worse the prognosis

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type: Epithelioid
  - The greater the extent of tumor contact with the sclera, the worse the prognosis

Q

Re choroidal/Ciliary Body melanoma…

- ***Poor prognostic factors:***
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type: Epithelioid
  - The greater the extent of tumor contact with the sclera, the worse the prognosis

Which two of these are the most important prognostic factors?

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- **Poor prognostic factors:**
  - Location: Anterior
    - So-called *ring melanoma* particularly poor
  - Documented growth
  - Larger size
  - Extraocular extension
  - Local recurrence
  - Cell type: **Epithelioid**
  - The greater the extent of tumor contact with the **sclera**, the worse the prognosis

Which two of these are the most important prognostic factors?
Cell type and scleral contact

Q

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread:

A

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous

Q

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets:

A

Re choroidal/Ciliary Body melanoma…

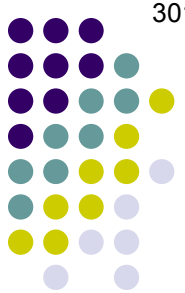
- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years

Q

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years
    - …diagnosis of mets to death:



A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years
    - …diagnosis of mets to death: 6 months

Q

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years
    - …diagnosis of mets to death: 6 months
  - Most common site of mets:

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years
    - …diagnosis of mets to death: 6 months
  - Most common site of mets: Liver

Q

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years
    - …diagnosis of mets to death: 6 months
  - Most common site of mets: Liver
    - % of fatalities have liver mets

A

Choroidal Nevus vs Melanoma

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years
    - …diagnosis of mets to death: 6 months
  - Most common site of mets: Liver
    - 95% of fatalities have liver mets

Q

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years
    - …diagnosis of mets to death: 6 months
  - Most common site of mets: Liver
    - 95% of fatalities have liver mets
      - % of fatalities have **only** liver mets

A

Re choroidal/Ciliary Body melanoma…

- ***Metastases***
  - Mechanism of spread: Hematogenous
  - Median duration from…
    - …treatment to diagnosis of mets: 7 years
    - …diagnosis of mets to death: 6 months
  - Most common site of mets: Liver
    - 95% of fatalities have liver mets
      - 33% of fatalities have **only** liver mets