Persistent Fetal Vasculature

In a nutshell: What is the issue in PFV?
Persistent Fetal Vasculature

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In a nutshell: What is the issue in PFV?
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*By what name was PFV formerly known?*
Persistent Fetal Vasculature

**In a nutshell: What is the issue in PFV?**
Portions of the posterior fetal vasculature of the lens (aka the *primary vitreous*) continue to exist (ie, it ‘persists’) past the developmental stage at which it should have regressed.

**By what name was PFV formerly known?**
Persistent hyperplastic primary vitreous (PHPV)
**Persistent Fetal Vasculature**

*In a nutshell: What is the issue in PFV?*

Portions of the posterior fetal vasculature of the lens (aka the primary vitreous) continue to exist (i.e., it ‘ persists ’) past the developmental stage at which it should have regressed.

*The term primary vitreous implies the existence of a secondary vitreous. Is this the case?*

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The term primary vitreous implies the existence of a secondary vitreous. Is this the case?

Indeed it is. In fact, there is also a tertiary vitreous.

Persistent hyperplastic primary vitreous (PHPV)
**Persistent Fetal Vasculature**

In a nutshell: What is the issue in PFV?

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Indeed it is. In fact, there is also tertiary vitreous.

What are the three vitreouses, ie, what do they form?

--The primary vitreous =
--The secondary vitreous
--The tertiary vitreous
In a nutshell: What is the issue in PFV?
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- The primary vitreous = the fetal vasculature comprising the hyaloid system
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Persistent Fetal Vasculature

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--The primary vitreous = the fetal vasculature comprising the hyaloid system
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Persistent Fetal Vasculature

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What is the hyaloid system?
**Persistent Fetal Vasculature**

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- The tertiary vitreous = the zonules

What is the hyaloid system?
The fetal vasculature that derives from the hyaloid artery
**Persistent Fetal Vasculature**

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- The primary vitreous = the fetal vasculature comprising the *hyaloid system*
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*What is the hyaloid system?*

The fetal vasculature that derives from the *hyaloid artery*

*Where does the hyaloid artery run?*
In a nutshell: What is the issue in PFV?
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-- The tertiary vitreous = the zonules

What is the hyaloid system?
The fetal vasculature that derives from the hyaloid artery

Where does the hyaloid artery run?
From the optic nerve head to the back of the lens (we will have much more to say about the hyaloid artery)
In a nutshell: What is the issue in PFV?
Portions of the posterior fetal vasculature of the lens (aka the *primary vitreous*) continue to exist (ie, it ‘persists’) past the developmental stage at which it should have regressed

*Is PFV primarily sporadic, or hereditary (or are both equally likely)?*
**Persistent Fetal Vasculature**

*In a nutshell: What is the issue in PFV?*
Portions of the posterior fetal vasculature of the lens (aka the *primary vitreous*) continue to exist (ie, it ‘persists’) past the developmental stage at which it should have regressed.

*Is PFV primarily sporadic, or hereditary (or are both equally likely)?*  
The vast majority of cases are sporadic.
In a nutshell: What is the issue in PFV?
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*Does PFV usually present unilaterally, or bilaterally (or are both equally likely)?*
**Persistent Fetal Vasculature**

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Portions of the posterior fetal vasculature of the lens (aka the *primary vitreous*) continue to exist (i.e., it ‘persists’) past the developmental stage at which it should have regressed.

*Is PFV primarily sporadic, or hereditary (or are both equally likely)?*
The vast majority of cases are sporadic.

*Does PFV usually present unilaterally, or bilaterally (or are both equally likely)?*
It is in over % of cases.
**Persistent Fetal Vasculature**

*In a nutshell: What is the issue in PFV?*
Portions of the posterior fetal vasculature of the lens (aka the *primary vitreous*) continue to exist (ie, it ‘persists’) past the developmental stage at which it should have regressed

*Is PFV primarily sporadic, or hereditary (or are both equally likely)?*
The vast majority of cases are sporadic

*Does PFV usually present unilaterally, or bilaterally (or are both equally likely)?*
It is unilateral in over 90% of cases
The vascular supply encapsulating the developing lens is called the **tunica vasculosa lentis**.

**Persistent Fetal Vasculature**

- The vascular supply encapsulating the developing lens is called the **tunica vasculosa lentis**.
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The vascular supply encapsulating the developing lens is called the **tunica vasculosa lentis.** *It has three sections:*

1) The **three words** derives from the **two words** arteries

2) 

3) 

**Persistent Fetal Vasculature**

[Tunica vasculosa lentis diagram]
The vascular supply encapsulating the developing lens is called the **tunica vasculosa lentis**. **It has three sections:**

1) The **anterior vascular capsule** derives from the **long ciliary** arteries

2)

3)
The vascular supply encapsulating the developing lens is called the **tunica vasculosa lentis**. **It has three sections:**

1) The **anterior vascular capsule** derives from the **long ciliary** arteries
2) The **posterior vascular capsule** arises from the **hyaloid** artery
3)
The vascular supply encapsulating the developing lens is called the **tunica vasculosa lentis.**

*It has three sections:*

1) The **anterior vascular capsule** derives from the **long ciliary arteries**
2) The **posterior vascular capsule** arises from the **hyaloid artery**
The vascular supply encapsulating the developing lens is called the tunica vasculosa lentis. It has three sections:

1) The anterior vascular capsule derives from the long ciliary arteries.
2) The posterior vascular capsule arises from the hyaloid artery.
3) The capsulopupillary portion anastomoses the anterior and posterior sections of the tunica vasculosa lentis.
The vascular supply encapsulating the developing lens is called the **tunica vasculosa lentis.**

**It has three sections:**

1) The **anterior vascular capsule** derives from the long ciliary arteries
2) The **posterior vascular capsule** arises from the hyaloid artery
3) The **capsulopupillary portion** anastomoses the anterior and posterior sections of the tunica
The vascular supply encapsulating the developing lens is called the **tunica vasculosa lentis**. 

*It has three sections:*

1. The **anterior vascular capsule** derives from the long ciliary arteries.
2. The **posterior vascular capsule** arises from the hyaloid artery.
3. The **capsulopupillary portion** anastomoses the anterior and posterior sections of the tunica.

*The hyaloid artery also send branches to the developing retina*
What is the normal natural history of the hyaloid system specifically, and the tunica vasculosa lentis in general?
What is the normal natural history of the hyaloid system specifically, and the tunica vasculosa lentis in general?
The hyaloid system regresses in the $n$th month, whereas the anterior portion hangs on until the $n$th month.
What is the normal natural history of the hyaloid system specifically, and the tunica vasculosa lentis in general?
The hyaloid system regresses in the 8th month, whereas the anterior portion hangs on until the 9th
What is the normal natural history of the hyaloid system specifically, and the tunica vasculosa lentis in general? The hyaloid system regresses in the 8th month, whereas the anterior portion hangs on until the 9th month.

What is the name of the intra-vitreal space, running from the ONH to the back of the lens, that is left behind by the regression of the hyaloid artery?
What is the normal natural history of the hyaloid system specifically, and the tunica vasculosa lentis in general? The hyaloid system regresses in the 8th month, whereas the anterior portion hangs on until the 9th.
In a nutshell: What is the issue in PFV?

Hearkening back to a question from a previous slide as a refresher: What did we say was the issue in PFV?
**Persistent Fetal Vasculature**

In a nutshell: What is the issue in PFV?
Portions of the posterior fetal vasculature of the lens (aka the *primary vitreous*) continue to exist (ie, it ‘persists’) past the developmental stage at which it should have regressed.

Hearkening back to a question from a previous slide as a refresher:
What did we say was the issue in PFV?
We said the issue was a failure of the hyaloid system to fully regress.
Persistent Fetal Vasculature

PFV comes in two forms. What are they?
Persistent Fetal Vasculature

Anterior

Posterior

PFV comes in two forms. What are they?
Anterior and posterior
**Persistent Fetal Vasculature**

PFV comes in two forms. What are they?
Anterior and posterior

What is the basic nature of each?
Persistent Fetal Vasculature

PFV comes in two forms. What are they?
Anterior and posterior

What is the basic nature of each?
Anterior PFV involves pathology…
Posterior PFV involves pathology…

Anterior PFV:
Persistent Fetal Vasculature

Anterior

Posterior

PFV comes in two forms. What are they?
Anterior and posterior

What is the basic nature of each?
Anterior PFV involves pathology...in the retrolental space
Posterior PFV involves pathology...

Anterior PFV:
Retrolental space
Persistent Fetal Vasculature

Anterior

Posterior

PFV comes in two forms. What are they?
Anterior and posterior

What is the basic nature of each?
Anterior PFV involves pathology... in the retrolental space
Posterior PFV involves pathology... [anatomy issue]
Persistent Fetal Vasculature

Anterior

Posterior

PFV comes in two forms. What are they?
Anterior and posterior

What is the basic nature of each?
Anterior PFV involves pathology...in the retrolental space
Posterior PFV involves pathology...related to the retinal branches of the hyaloid artery

Anterior PFV:
Retrolental space

Posterior PFV:
Retinal branch remnants
Persistent Fetal Vasculature

Anterior

Can both anterior and posterior PFV be present in the same eye?

Posterior

Anterior PFV: Retrolental space

Posterior PFV: Retinal branch remnants


**Anterior PFV:** Retrolental space

**Posterior PFV:** Retinal branch remnants

**Can both anterior and posterior PFV be present in the same eye?**
Yes
Persistent Fetal Vasculature

Anterior

Posterior

Shouldn't a failure to regress by the anterior vascular capsule constitute anterior PFV?
Persistent Fetal Vasculature

Anterior
Posterior

Shouldn’t a failure to regress by the anterior vascular capsule constitute anterior PFV?
No, because the anterior vasc capsule derives from the long ciliary arteries, not the hyaloid system.
**Persistent Fetal Vasculature**

Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?

--?

--?

Shouldn’t a failure to regress by the anterior vascular capsule constitute anterior PFV?

No, because the anterior vascular capsule derives from the long ciliary arteries, not the hyaloid system.
**Persistent Fetal Vasculature**

Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?

--Epicapsular star
--Persistent pupillary membrane

Shouldn’t a **failure to regress by the anterior vascular capsule** constitute anterior PFV?

No, because the anterior vasc capsule derives from the long ciliary arteries, not the hyaloid system.
How does an epicapsular star present? As a tiny, star-shaped schmutz on the anterior capsule.

Is it common? Very.

Is it visually significant? Never.

Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?--Epicapsular star--Persistent pupillary membrane

Shouldn’t a failure to regress by the anterior vascular capsule constitute anterior PFV? No, because the anterior vascular capsule derives from the long ciliary arteries, not the hyaloid system.

How does an epicapsular star present?
**Persisten Fetal Vasculature**

Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?

- Epicapsular star
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How does an epicapsular star present?  
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Persistent Fetal Vasculature

Anterior

Persisted Posterior

Fetal Vasculature
How does an epicapsular star present?
As a tiny, star-shaped schmutz on the anterior capsule.

Is it common?
Very

Is it visually/medically significant?
Never

Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?

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Persisten Fetal Vasculature
Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?

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How does a persistent pupillary membrane present?
Persisted Fetal Vasculature

Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?

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Shouldn't a failure to regress by the anterior vascular capsule constitute anterior PFV?

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How does a persistent pupillary membrane present?
As fibers stretching across the pupillary aperture
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How does a persistent pupillary membrane present?
As fibers stretching across the pupillary aperture

How extensive is it?
It varies significantly, from a few barely-visible strands to a vast and intricate web

Very common
Rarely visually significant
Anterior Persistent Fetal Vasculature

Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?

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Iris
**Persistent Fetal Vasculature**

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Very.

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**Persistent Fetal Vasculature**

Speaking of: Two remnants of a failed-to-completely-regress anterior vascular capsule are commonly encountered at the slit lamp. What are they?

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**How does a persistent pupillary membrane present?**

As fibers stretching across the pupillary aperture

---

**How extensive is it?**

It varies significantly, from a few barely-visible strands to a vast and intricate web

---

**Is it common?**

Very

---

**Is it visually/medically significant?**

Rarely
Persistent Fetal Vasculature

Anterior

Posterior

OK, back to PFV. Take note:

Anterior PFV: Retrolental space

Posterior PFV: Retinal branch remnants
Persistent Fetal Vasculature

Anterior

- Mild ‘dz’
- Severe dz

Posterior

- Mild ‘dz’
- Severe dz

Anterior and posterior PFV both exist on a ‘continuum of severity’ ranging from clinically insignificant to clinically devastating.

OK, back to PFV. Take note:

Anterior PFV: Retrolental space

Posterior PFV: Retinal branch remnants
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ \[\xrightarrow{\text{continuum}}\] Severe dz

Posterior

Mild ‘dz’ \[\xleftarrow{\text{continuum}}\] Severe dz

Why is the word disease in ‘quotes’ here?
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ← continuum → Severe dz

Posterior

Mild ‘dz’ ← continuum → Severe dz

Why is the word disease in ‘quotes’ here? Because mild PFV is so clinically insignificant, it doesn’t really count as a disease per se.
Anterior PFV: Retrolental space

What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?
What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?

A  Mittendorf dot
What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?

A Mittendorf dot
**Persistent Fetal Vasculature**

**Anterior**
- Mild ‘dz’ → continuum → Severe dz

**Posterior**
- Mild ‘dz’ → continuum → Severe dz

*What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?*

A Mittendorf dot
How does a Mittendorf dot present?
As a minute white dot on the back of the lens, slightly inferonasal to center.

How does it relate to the hyaloid system?
It is a vestige of the attachment of the hyaloid artery to the back of the lens.

Is it common?
Very

Is it visually/medically significant?
Never

What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?
A Mittendorf dot

How does a Mittendorf dot present?

[Diagram showing the relationship between the hyaloid artery and the eye, highlighting the location of a Mittendorf dot.]
How does a Mittendorf dot present?
As a minute white dot on the back of the lens, slightly inferonasal to center

How does it relate to the hyaloid system?
It is a vestige of the attachment of the hyaloid artery to the back of the lens

Is it common?
Very

Is it visually/medically significant?
Never

What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?
Mittendorf dot

Persistent Fetal Vasculature

Anterior
Mild ‘dz’ ← continuum → Severe dz

Posterior
Mild ‘dz’ ← continuum → Severe dz

How does a Mittendorf dot present?
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What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?
A Mittendorf dot

How does a Mittendorf dot present?
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How does it relate to the hyaloid system?
It is a vestige of the attachment of the hyaloid artery to the back of the lens
How does a Mittendorf dot present? As a minute white dot on the back of the lens, slightly inferonasal to center.

How does it relate to the hyaloid system? It is a vestige of the attachment of the hyaloid artery to the back of the lens.

Is it common? Very.

Is it visually/medically significant? Never.

What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV? A Mittendorf dot.
How does a Mittendorf dot present?
As a minute white dot on the back of the lens, slightly inferonasal to center

How does it relate to the hyaloid system?
It is a vestige of the attachment of the hyaloid artery to the back of the lens

Is it common?
Very

What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?
A Mittendorf dot

How does a Mittendorf dot present?
As a minute white dot on the back of the lens, slightly inferonasal to center

How does it relate to the hyaloid system?
It is a vestige of the attachment of the hyaloid artery to the back of the lens

Is it common?
Very
How does a Mittendorf dot present?
As a minute white dot on the back of the lens, slightly inferonasal to center.

How does it relate to the hyaloid system?
It is a vestige of the attachment of the hyaloid artery to the back of the lens.

Is it common?
Very

Is it visually/medically significant?
Never

What is the eponymous name of the classic manifestation of mild, clinically insignificant anterior PFV?
A Mittendorf dot
How does a Mittendorf dot present?
As a minute white dot on the back of the lens, slightly inferonasal to center

How does it relate to the hyaloid system?
It is a vestige of the attachment of the hyaloid artery to the back of the lens

Is it common?
Very

Is it visually/medically significant?
Never
Persistent Fetal Vasculature

Anterior

Mild ‘dz’  continuum  Severe dz

Posterior

Mild ‘dz’  continuum  Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?
**Persistent Fetal Vasculature**

**Anterior**
- Mild ‘dz’
- Severe dz

**Posterior**
- Mild ‘dz’
- Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant **posterior PFV**?

A two words

**Posterior PFV:**
- Retinal branch remnants

Diagram:
- Hyaloid artery
- Nerve
- Retinal branch remnants
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ➔ continuum ➔ Severe dz

Posterior

Mild ‘dz’ ➔ continuum ➔ Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

A  Bergmeister papilla

Posterior PFV:
Retinal branch remnants
What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?
A Bergmeister papilla
Persistent Fetal Vasculature

Anterior

Posterior

Mild ‘dz’ → continuum → Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

Bergmeister papilla

How does a Bergmeister papilla present?

Retinal branch remnants

How does a Bergmeister papilla present?

As a small tuft of glial tissue in the vein that emanates from the ONH

How does it relate to the hyaloid system?

It is a vestige of the origin of the hyaloid artery at the ONH

Is it common?

Yes

Is it visually/medically significant?

Never
How does a Bergmeister papilla present?
As a small tuft of glial tissue in the V that emanates from the ONH.

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PEV? Bergmeister papilla
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ⟷ continuum ⟷ Severe dz

Posterior

Mild ‘dz’ ⟷ continuum ⟷ Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

Bergmeister papilla

How does a Bergmeister papilla present?
As a small tuft of glial tissue in the V that emanates from the ONH

How does it relate to the hyaloid system?
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

Posterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

Bergmeister papilla

How does a Bergmeister papilla present?
As a small tuft of glial tissue in the V that emanates from the ONH.

How does it relate to the hyaloid system?
It is a vestige of the origin of the hyaloid artery at the ONH.
Persistent Fetal Vasculature

Anterior

Mild ‘dz’

Severe dz

Posterior

Mild ‘dz’

Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

Bergmeister papilla

How does a Bergmeister papilla present?
As a small tuft of glial tissue in the V that emanates from the ONH

How does it relate to the hyaloid system?
It is a vestige of the origin of the hyaloid artery at the ONH

Is it common?
Yes

Is it visually/medically significant?
Never
What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

Bergmeister papilla

How does a Bergmeister papilla present?
As a small tuft of glial tissue in the V that emanates from the ONH

How does it relate to the hyaloid system?
It is a vestige of the origin of the hyaloid artery at the ONH

Is it common?
Yes
Understanding Persistent Fetal Vasculature (PFV):

- **Anterior PFV**
  - Mild \( \text{'dz'} \) ➔ Severe \( \text{'dz'} \)

- **Posterior PFV**
  - Mild \( \text{'dz'} \) ➔ Severe \( \text{'dz'} \)

**What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?**

- **Bergmeister papilla**

**How does a Bergmeister papilla present?**
- As a small tuft of glial tissue in the V that emanates from the ONH

**How does it relate to the hyaloid system?**
- It is a vestige of the origin of the hyaloid artery at the ONH

**Is it common?**
- Yes

**Is it visually/medically significant?**
- Never
**Persistent Fetal Vasculature**

### Anterior
- Mild ‘dz’ (continuum)
- Severe dz

### Posterior
- Mild ‘dz’ (continuum)
- Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

**Bergmeister papilla**

**How does a Bergmeister papilla present?**
As a small tuft of glial tissue in the V that emanates from the ONH

**How does it relate to the hyaloid system?**
It is a vestige of the origin of the hyaloid artery at the ONH

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- Never
How does a Bergmeister papilla present?
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How does it relate to the hyaloid system?
It is a vestige of the origin of the hyaloid artery at the ONH

Is it common?
Yes

Is it visually/medically significant?
Never

I saw a Bergmeister papilla that was perfused. Is this a still-viable hyaloid artery remnant?
**Persistent Fetal Vasculature**

Anterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

Posterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

**Bergmeister papilla**

How does a Bergmeister papilla present?
As a small tuft of glial tissue in the V that emanates from the ONH

How does it relate to the hyaloid system?
It is a vestige of the origin of the hyaloid artery at the ONH

Is it common?
Yes

Is it visually/medically significant?
Never

I saw a Bergmeister papilla that was perfused. Is this a still-viable hyaloid artery remnant?
You’d think so, but no. It’s a prepapillary vascular loop.
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ≤ continuum ≤ Severe dz

Posterior

Mild ‘dz’ ≤ continuum ≤ Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

Bergmeister papilla

How does a Bergmeister papilla present?
As a small tuft of glial tissue in the V that emanates from the ONH

How does it relate to the hyaloid system?
It is a vestige of the origin of the hyaloid artery at the ONH

Is it common?
Yes

Is it visually/medically significant?
Never

I saw a Bergmeister papilla that was perfused. Is this a still-viable hyaloid artery remnant?
You’d think so, but no. It’s a prepapillary vascular loop.

What is a prepapillary vascular loop?
Persistent Fetal Vasculature

Anterior
Mild ‘dz’ ↔ continuum ↔ Severe dz

Posterior
Mild ‘dz’ ↔ continuum ↔ Severe dz

What is the eponymous name of the classic manifestation of mild, clinically insignificant posterior PFV?

Bergmeister papilla

I saw a Bergmeister papilla that was perfused. Is this a still-viable hyaloid artery remnant?
You’d think so, but no. It’s a prepapillary vascular loop.

What is a prepapillary vascular loop?
It is a normal retinal vessel that ‘loops’ into a Bergmeister papilla, then exits.

How does a Bergmeister papilla present?
As a small tuft of glial tissue in the V that emanates from the ONH.

How does it relate to the hyaloid system?
It is a vestige of the origin of the hyaloid artery at the ONH.

Is it common?
Yes

Is it visually/medically significant?
Never
What is the main manifestation of severe anterior PFV?
Persistent Fetal Vasculature

Anterior

Mild 'dz' ← continuum → Severe dz

Posterior

Mild 'dz' ← continuum → Severe dz

What is the main manifestation of severe anterior PFV?
A color, vascular status, location membrane
What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ⇄ continuum ⇄ Severe dz

Posterior

Mild ‘dz’ ⇄ continuum ⇄ Severe dz

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

What finding—described in the BCSC as “classic” for anterior PFV—is associated with the peripheral aspect of the retrolental membrane?
**Persistent Fetal Vasculature**

**Anterior**
- Mild ‘dz’
- Severe dz

**Posterior**
- Mild ‘dz’
- Severe dz

What is the main manifestation of severe anterior PFV?
A **white, vascularized retrolental membrane**

What finding—described in the BCSC as “classic” for anterior PFV—is associated with the peripheral aspect of the retrolental membrane?
Elongated **two words** are visible through the pupil when dilated.
What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

What finding—described in the BCSC as “classic” for anterior PFV—is associated with the peripheral aspect of the retrolental membrane?
Elongated ciliary processes are visible through the pupil when dilated
What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is...
--The lens is...
--The anterior chamber is...
Persistent Fetal Vasculature

Anterior

Mild ‘dz’  continuum  Severe dz

Posterior

Mild ‘dz’  continuum  Severe dz

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is…microphthalmic
--The lens is…
--The anterior chamber is…
Persistent Fetal Vasculature

Anterior

Mild ‘dz’  ≤  continuum  ≥  Severe dz

Posterior

Mild ‘dz’  ≤  continuum  ≥  Severe dz

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations:
-- The eye is microphthalmic
-- The lens is...
-- The anterior chamber is...

How prevalent is microphthalmia in severe anterior PFV?
What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations:
-- The eye is microphthalmic
-- The lens is...
-- The anterior chamber is...

How prevalent is microphthalmia in severe anterior PFV?
Very. In fact, if an eye with apparent PFV isn't microphthalmic, you should question the diagnosis.
What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is...microphthalmic
--The lens is...[two key attributes]
--The anterior chamber is...
Persistent Fetal Vasculature

Anterior

Mild 'dz'  continuum  Severe dz

Posterior

Mild 'dz'  continuum  Severe dz

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
-- The eye is...microphthalmic
-- The lens is...small and cataractous
-- The anterior chamber is...
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ➔ continuum ➔ Severe dz

Posterior

Mild ‘dz’ ➔ continuum ➔ Severe dz

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
-- The eye is microphthalmic
-- The lens is small and cataractous
-- The anterior chamber is...

Where anterior PFV rank as a cause of unilateral cataract in kids?
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

Posterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is...microphthalmic
--The lens is...small and cataractous
--The anterior chamber is...

Where anterior PFV rank as a cause of unilateral cataract in kids?
#1
What is the main manifestation of severe anterior PFV?
A white, vascularized retroental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is... mirophthalmic
--The lens is... small and cataractous
--The anterior chamber is... [ominous status]
**Persistent Fetal Vasculature**

**Anterior**

- Mild ‘dz’
- **Severe dz**

**Posterior**

- Mild ‘dz’
- **Severe dz**

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
- The eye is... microphthalmic
- The lens is... small and cataractous
- The anterior chamber is... shallow
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ \(\leftrightarrow\) **Severe dz**

Posterior

Mild ‘dz’ \(\leftrightarrow\) **Severe dz**

What is the main manifestation of severe anterior PFV?
A. white, vascularized retrolental membrane

Why refer to the shallow-ness of the anterior chamber as ‘ominous’?
--The lens is...small and cataractous
--The anterior chamber is shallow
What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Why refer to the shallow-ness of the anterior chamber as ‘ominous’?
It places the eye at significant risk for angle-closure glaucoma
--The lens is...small and cataractous
--The anterior chamber is shallow
Persistent Fetal Vasculature

Anterior

Mild ‘dz’  continuum  Severe dz

Posterior

Mild ‘dz’  continuum  Severe dz

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is...microphthalmic
--The lens is...small and cataractous
--The anterior chamber is...shallow

What is the natural hx of severe anterior PFV?
**Persistent Fetal Vasculature**

![Diagram showing the continuum between mild and severe anterior PFV and mild and severe posterior PFV.](image)

**Anterior**
- Mild ‘dz’
- Severe ‘dz’

**Posterior**
- Mild ‘dz’
- Severe ‘dz’

**What is the main manifestation of severe anterior PFV?**
A white, vascularized retrolental membrane

**Three other classic manifestations of severe anterior PFV:**
- The eye is microphthalmic
- The lens is small and cataractous
- The anterior chamber is shallow

**What is the natural hx of severe anterior PFV?**
Relentless progression of the cataract and AC shallowing, resulting in blindness and glaucoma.
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

Posterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

What is the main manifestation of severe anterior PFV?
A. white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
-- The eye is... microphthalmic
-- The lens is... small and cataractous
-- The anterior chamber is... shallow

What is the natural hx of severe anterior PFV?
Relentless progression of the cataract and AC shallowing, resulting in blindness and glaucoma
**Persistent Fetal Vasculature**

### Anterior

- Mild ‘dz’
- **Severe dz**

### Posterior

- Mild ‘dz’
- **Severe dz**

**What is the main manifestation of severe anterior PFV?**
A white, vascularized retrolental membrane

**Three other classic manifestations of severe anterior PFV:**
- The eye is... **microphthalmic**
- The lens is... **small** and **cataractous**
- The anterior chamber is... **shallow**

**What is the natural hx of severe anterior PFV?**
Relentless progression of the cataract and AC shallowing, resulting in blindness and glaucoma

**Is severe PFV amenable to surgical intervention?**
### Persistent Fetal Vasculature

#### Anterior
- Mild ‘dz’
- Severe dz (continuum)

#### Posterior
- Mild ‘dz’
- Severe dz (continuum)

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
- The eye is microphthalmic
- The lens is small and cataractous
- The anterior chamber is shallow

What is the natural hx of severe anterior PFV?
Relentless progression of the cataract and AC shallowing, resulting in blindness and glaucoma

Is severe PFV amenable to surgical intervention?
Yes. The cataract and retrolental membrane can be removed, and this usually precludes development of secondary glaucoma. However, the post-op course is fraught, and the visual prognosis guarded.
At what age does severe anterior PFV present?

Mild ‘dz’ → Severe dz

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
-- The eye is...microphthalmic
-- The lens is...small and cataractous
-- The anterior chamber is...shallow
What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
-- The eye is... microphthalmic
-- The lens is... small and cataractous
-- The anterior chamber is... shallow

At what age does severe anterior PFV present?
Birth
At what age does severe anterior PFV present? Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue?

Mild ‘dz’

What is the main manifestation of severe anterior PFV? A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is...microphthalmic
--The lens is...small and cataractous
--The anterior chamber is...shallow
At what age does severe anterior PFV present?
Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is...microphthalmic
--The lens is...small and cataractous
--The anterior chamber is...shallow
At what age does severe anterior PFV present?
Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue?
Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx?
Retinoblastoma (Rb)

What is the main manifestation of severe anterior PFV?
White, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is...microphthalmic
--The lens is...small and cataractous
--The anterior chamber is...shallow
At what age does severe anterior PFV present?

Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue?

Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx?

Retinoblastoma (Rb)

Mild ‘dz’

Continuum

Severe dz

What is the main manifestation of severe anterior PFV?

White, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:

--The eye is... microphthalmic
--The lens is... small and cataractous
--The anterior chamber is... shallow
At what age does severe anterior PFV present?
Birth

It’s crucial that you be able to distinguish between anterior PFV and Rb, both in the clinic and on the OKAP/Boards. So let’s see how Rb stacks up against what we’ve learned about anterior PFV.

What is the most feared dx on the leukocoria DDX?
Retinoblastoma (Rb)

What is the main manifestation of severe anterior PFV?
A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:
--The eye is...microphthalmic
--The lens is...small and cataractous
--The anterior chamber is...shallow

nerve
Hyaloid artery
At what age does severe anterior PFV present?
Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? **Retinoblastoma (Rb)**

Does Rb present with leukocoria at birth? **No**

Mild ‘dz’

- Vascularized retrolental membrane

Severe dz

- Microphthalmic
- Cataractous
- Shallow

What is the main manifestation of severe anterior PFV?

A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:

- The eye is... **microphthalmic**
- The lens is... **small** and **cataractous**
- The anterior chamber is... **shallow**
Persistent Fetal Vasculature

**What is the main manifestation of severe anterior PFV?**

*white*, vascularized retrolental membrane

**Three other classic manifestations of severe anterior PFV:**

-- The eye is... **microphthalmic**
-- The lens is... **small** and **cataractous**
-- The anterior chamber is... **shallow**

**At what age does severe anterior PFV present?**

Birth

**What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue?**

Leukocoria. Anterior PFV is very high on the DDx for it.

**What is the most feared dx on the leukocoria DDx?**

*Retinoblastoma (Rb)*

Does Rb present with leukocoria at birth? **No**
At what age does severe anterior PFV present? Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? Retinoblastoma (Rb)

Does Rb present with leukocoria at birth? No

Does this mean Rb can’t be present at birth? Oh no, it mos def can. It just isn’t obvious, ie, it isn’t causing leukocoria (or any other outward sign).

Mild ‘dz continuum

Severe dz continuum

Mild ‘dz Severe dz

Anterior

Posterior

What is the main manifestation of severe anterior PFV?

A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:

--The eye is microphthalmic
--The lens is small and cataractous
--The anterior chamber is shallow
At what age does severe anterior PFV present?
Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? Retinoblastoma (Rb)

Does Rb present with leukocoria at birth? No

Does this mean Rb can’t be present at birth?
Oh no, it mos def can. It just isn’t obvious, ie, it isn’t causing leukocoria (or any other outward sign).
At what age does severe anterior PFV present?
Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? Retinoblastoma (Rb)

Does Rb present with leukocoria at birth? No

Are Rb eyes microphthalmic? Yes

Mild ‘dz’ continuum

Severe dz continuum

What is the main manifestation of severe anterior PFV?

White, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:

--The eye is...microphthalmic?
--The lens is...small and cataractous
--The anterior chamber is...shallow
At what age does severe anterior PFV present? Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? Retinoblastoma (Rb)

Does Rb present with leukocoria at birth? No

What is the main manifestation of severe anterior PFV? A white, vascularized retrolental membrane.

Are Rb eyes microphthalmic? No

Three other classic manifestations:
--The eye is microphthalmic.
--The lens is small and cataractous.
--The anterior chamber is shallow.

Severe dz

Mild ‘dz

continuum

continuum

Mild ‘dz

Severe dz
At what age does severe anterior PFV present?
Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? Retinoblastoma (Rb)

Does Rb present with leukocoria at birth? No

Are Rb eyes microphthalmic? No

Do Rb eyes have small/cataractous lenses?

Mild ‘dz’

Severe dz

What is the main manifestation of severe anterior PFV? White, vascularized retrolental membrane.

Three other classic manifestations of severe anterior PFV:
--The eye is…microphthalmic.
--The lens is…small and cataractous?
--The anterior chamber is…shallow.
At what age does severe anterior PFV present? Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? Retinoblastoma (Rb)

Does Rb present with leukocoria at birth? No

Are Rb eyes microphthalmic? No

Do Rb eyes have small/cataractous lenses? No

What is the main manifestation of severe anterior PFV? White, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:

--- The eye is microphthalmic
--- The lens is small and cataractous
--- The anterior chamber is shallow
At what age does severe anterior PFV present? Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? Retinoblastoma (Rb)

Does Rb present with leukocoria at birth? No

Are Rb eyes microphthalmic? No

Do Rb eyes have small/cataractous lenses? No

Do Rb eyes have shallow ACs? 

Mild ‘dz’

Persistent Fetal Vasculature

Anterior

Posterior

Mild 'dz' Severe dz continuum

What is the main manifestation of severe anterior PFV? A white, vascularized retrolental membrane

Three other classic manifestations of severe anterior PFV:

--The eye is microphthalmic
--The lens is small and cataractous
--The anterior chamber is shallow?
Persistent Fetal Vasculature

Anterior

Mild 'dz

Severe dz

continuum

What is the main manifestation of severe anterior PFV?

A. white, vascularized retrolental membrane

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At what age does severe anterior PFV present?

Birth

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What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue? Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx? Retinoblastoma (Rb).

Are Rb eyes microphthalmic? No.

Anterior PFV Rb Leukocoria at birth? Yes No.

Is the patient microphthalmic? Yes No.

Cataract present? Yes No.

AC shallow? Yes No.

(Review slide—no questions, proceed when ready)
At what age does severe anterior PFV present?
Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue?

<table>
<thead>
<tr>
<th>Mild 'dz'</th>
<th>Severe 'dz'</th>
</tr>
</thead>
<tbody>
<tr>
<td>continuum</td>
<td>continuum</td>
</tr>
</tbody>
</table>

What is the main manifestation of severe anterior PFV?

- A white, vascularized retrolental membrane
- Three other classic manifestations of severe anterior PFV:
  - The eye is microphthalmic
  - The lens is small and cataractous
  - The anterior chamber is shallow

At what age does severe anterior PFV present?
Birth

What is the classic clinical finding that alerts the pediatrician to the presence of a significant ocular issue?

Leukocoria. Anterior PFV is very high on the DDx for it.

What is the most feared dx on the leukocoria DDx?

Retinoblastoma (Rb)

Are Rb eyes microphthalmic?
No

Anterior PFV Rb
Clinically obvious at birth?
Yes

Microphthalmic?
Yes

Cataract present?
Yes

AC shallow?
Yes

Next, we will change gears and consider clinically significant posterior PFV

(Review slide—no questions, proceed when ready)
In severe PFV...

Is a retrolental membrane present?

No

Persistent Fetal Vasculature

Anterior

Mild ‘dz’ \(\leftrightarrow\) Severe dz

Posterior

Mild ‘dz’ \(\leftrightarrow\) Severe dz

A **white**, vascularized retrolental membrane

**In severe posterior PFV…**

*The eye is…* microphthalmic

*The lens is…* small and cataractous

*The anterior chamber is…* shallow
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ ← continuum → Severe dz

Posterior

Mild ‘dz’ ← continuum → Severe dz

What is the main manifestation of severe anterior PFV?

A white, vascularized retrolental membrane?

In severe posterior PFV…

Is a retrolental membrane present?

The eye is… microphthalmic
The lens is… small and cataractous
The anterior chamber is… shallow
**Persistent Fetal Vasculature**

- **Anterior**
  - Mild ‘dz’
  - Severe dz
  
- **Posterior**
  - Mild ‘dz’
  - Severe dz

**What is the main manifestation of severe anterior PFV?**

A white, vascularized retrolental membrane?

**In severe posterior PFV...**

*The eye is...microphthalmic*

*The lens is...small and cataractous*

*The anterior chamber is...shallow*

**Is a retrolental membrane present? No**
In severe PFV...

Is a retrolental membrane present?

No

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Anterior

Posterior

Mild ‘dz’

continuum

Severe dz

continuum

Mild ‘dz’

Severe dz

What is the main manifestation of severe anterior PFV?

A white, vascularized retrolental membrane?

In severe posterior PFV...

Is the eye microphthalmmic?

The eye is...microphthalmmic?

The lens is...small and cataractous

The anterior chamber is...shallow

In severe posterior PFV...

Is the eye microphthalmmic?
In severe PFV...
Is a retrolental membrane present?
No

**Persistent Fetal Vasculature**

Anterior

Mild ‘dz’  continuum  Severe dz

Posterior

Mild ‘dz’  continuum  Severe dz

Anterior

**Persistent Fetal Vasculature**

Mild ‘dz’  continuum  Severe dz

Posterior

Mild ‘dz’  continuum  Severe dz

In severe posterior PFV...
Is the eye microphthalmic? Yes

*The eye is...microphthalmic!*
*The lens is...small and cataractous*
*The anterior chamber is...shallow*
**Persistent Fetal Vasculature**

- **Anterior**
  - Mild ‘dz’ ↔ **continuum** ↔ Severe dz
- **Posterior**
  - Mild ‘dz’ ↔ **continuum** ↔ Severe dz

**In severe anterior PFV…**
- Is a retrolental membrane present?
- What is the main manifestation of severe anterior PFV?
  - A white, vascularized retrolental membrane?

**The eye is…microphthalmic!**
**The lens is…small and cataractous?**
**The anterior chamber is…shallow**

**In severe posterior PFV…**
- Is the lens small/ cataractous?
In severe PFV...

Is a retrolental membrane present? No

**Persistent Fetal Vasculature**

**Anterior**
- Mild ‘dz’
- Severe dz

**Posterior**
- Mild ‘dz’
- Severe dz

What is the main manifestation of severe anterior PFV?

A white, vascularized retrolental membrane?

*In severe posterior PFV...*  
*Is the lens small/cataractous? No*

The eye is...microphthalmic!  
The lens is...small and cataractous.  
The anterior chamber is...shallow
Persistent Fetal Vasculature

Anterior

Mild ‘dz’  continuum  Severe dz

Posterior

Mild ‘dz’  continuum  Severe dz

In severe posterior PFV...
Is the AC shallow?

The eye is...microphthalmic!
The lens is...small and cataractous.
The anterior chamber is...shallow?

In severe PFV...
Is a retrolental membrane present?

No
In severe PFV...

Is a retrolental membrane present?

No

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Anterior

Posterior

Persistent Fetal Vasculature

What is the main manifestation of severe anterior PFV?

A white, vascularized retrolental membrane?

Three other classic manifestations of severe anterior PFV:

--The eye is... microphthalmic!
--The lens is... small and cataractous
--The anterior chamber is... shallow

In severe posterior PFV...

Is the AC shallow? No

Mild ‘dz’ continuum

The anterior chamber is shallow

Mild ‘dz’

Severe ‘dz’

Anterior

Posterior
What is the main manifestation of severe anterior PFV?

A white, vascularized retrolental membrane?

The eye is...microphthalmic!
The lens is...small and cataractous.
The anterior chamber is...shallow.

What is the defining feature of severe posterior PFV?
**Persistent Fetal Vasculature**

**Anterior**
- Mild 'dz'
- Severe dz

**Posterior**
- Mild 'dz'
- Severe dz

What is the main manifestation of severe anterior PFV?
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What is the defining feature of severe posterior PFV?
- Persistent hyaloid branches emanating from the ONH, running atop (and causing) a retinal fold
Persistent Fetal Vasculature

Anterior

Mild ‘dz’ \(\leftrightarrow\) Severe dz

Posterior

Mild ‘dz’ \(\leftrightarrow\) Severe dz

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Persistent hyaloid branches emanating from the ONH, running atop (and causing) a retinal fold

What conditions top the DDx for posterior PFV?
--?
--?
--?

Optic nerve
**Persistent Fetal Vasculature**

**Anterior**
- Mild ‘dz’
- Continuum
- Severe dz

**Posterior**
- Mild ‘dz’
- Continuum
- Severe dz

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What conditions top the DDx for posterior PFV?
- ROP
- FEVR
- Toxocariasis
**Persistent Fetal Vasculature**

Anterior

Mild ‘dz’ <-> continuum <-> Severe dz

Posterior

Mild ‘dz’ <-> continuum <-> Severe dz

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What is the defining feature of severe posterior PFV?

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What does ROP stand for here?
**Persistent Fetal Vasculature**

Anterior

- Mild ‘dz’
- Severe dz

Posterior

- Mild ‘dz’
- Severe dz

**What is the main manifestation of severe anterior PFV?**

A white, vascularized retrolental membrane?

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Persistent hyaloid branches emanating from the ONH, running atop (and causing) a retinal fold.

**What conditions top the DDx for posterior PFV?**

- ROP
- FEVR
- Toxocariasis

What does ROP stand for here? Retinopathy of prematurity (it has its own slide-set if you’re interested)
**Persistent Fetal Vasculature**

**Anterior**
- Mild ‘dz’
- Severe dz

**Posterior**
- Mild ‘dz’
- Severe dz

**What is the main manifestation of severe anterior PFV?**
- A white, vascularized retrolental membrane?

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- ROP
- FEVR
- Toxocariasis

**How about FEVR?**
**Persistent Fetal Vasculature**

Anterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

Posterior

Mild ‘dz’ ↔ continuum ↔ Severe dz

What is the main manifestation of severe anterior PFV?

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What conditions top the DDx for posterior PFV?

- ROP
- FEVR
- Toxocariasis

- How about FEVR?

Familial exudative vitreoretinopathy (covered in slide-set R3)
**Persistent Fetal Vasculature**

**Anterior**
- Mild ‘dz’
- Severe dz (continuum)

**Posterior**
- Mild ‘dz’
- Severe dz (continuum)

**What is the main manifestation of severe anterior PFV?**
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---

**What conditions top the DDx for posterior PFV?**
- --ROP
- --FEVR
- **Toxocariasis** (In a word, what sort of bug is Toxocara?)

---

**In a word, what sort of bug is Toxocara?**
**Persistent Fetal Vasculature**

- **Anterior**
  - Mild ‘dz’
  - Severe dz

- **Posterior**
  - Mild ‘dz’
  - Severe dz

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What conditions top the DDx for posterior PFV?

- ROP
- FEVR
- Toxocariasis

In a word, what sort of bug is Toxocara?

A roundworm (it has its own slide-set)

**Toxocariasis**
The next section is a brief recapitulation of the high points for severe anterior PFV
Anterior PFV: Basics

- classic descriptors (three words)
  - membrane present behind lens
Anterior PFV: Basics

- White vascularized fibrous membrane present behind lens
**Anterior PFV: Basics**

- **White vascularized fibrous** membrane present behind lens
- Associated with:
  - eye size
Anterior PFV: Basics

- White vascularized fibrous membrane present behind lens
- Associated with:
  - Microphthalmos
Anterior PFV: Basics

- White vascularized fibrous membrane present behind lens
- Associated with:
  - Microphthalmos
  - Leukocoria

Q
Anterior PFV: Basics

- White **vascularized fibrous** membrane present behind lens
- Associated with:
  - Microphthalmos
  - Leukocoria **at birth**
**Anterior PFV: Basics**

- **White vascularized fibrous** membrane present behind lens
- Associated with:
  - **Microphthalmos**
  - Leukocoria **at birth**
  - deep vs shallow anterior chamber
Anterior PFV: Basics

- White *vascularized fibrous* membrane present behind lens
- Associated with:
  - Microphthalmos
  - Leukocoria *at birth*
  - Shallow anterior chamber
Anterior PFV: Basics

- White vascularized fibrous membrane present behind lens
- Associated with:
  - Microphthalmos
  - Leukocoria at birth
  - Shallow anterior chamber
  - Long visible around small lens
Anterior PFV: Basics

- White *vascularized fibrous* membrane present behind lens
- Associated with:
  - Microphthalmos
  - Leukocoria *at birth*
  - Shallow anterior chamber
  - Long *ciliary processes* visible around small lens
Anterior PFV: Basics

- White vascularized fibrous membrane present behind lens
- Associated with:
  - Microphthalmos
  - Leukocoria at birth
  - Shallow anterior chamber
  - Long ciliary processes visible around small lens
- Dehiscence of posterior capsule \(\rightarrow\) lens \(\rightarrow\) cataract and \(\rightarrow\) glaucoma
Anterior PFV: Basics

- White vascularized fibrous membrane present behind lens
- Associated with:
  - Microphthalmos
  - Leukocoria at birth
  - Shallow anterior chamber
  - Long ciliary processes visible around small lens
- Dehiscence of posterior capsule → lens intumescence → cataract and 2° angle closure glaucoma
Anterior PFV: Basics

- **White vascularized fibrous** membrane present behind lens
- Associated with:
  - **Microphthalmos**
  - Leukocoria at birth
  - **Shallow** anterior chamber
  - Long *ciliary processes* visible around small lens
- Dehiscence of posterior capsule → lens *intumescence* → cataract and 2° angle closure glaucoma

Anterior PFV: Management

- Surgical procedure and another surgical procedure to prevent angle closure
**Anterior PFV: Basics**
- **White vascularized fibrous** membrane present behind lens
- Associated with:
  - **Microphthalmos**
  - Leukocoria at birth
  - **Shallow** anterior chamber
  - Long ciliary processes visible around small lens
- Dehiscence of posterior capsule → lens **intumescence** → cataract and 2° angle closure glaucoma

**Anterior PFV: Management**
- **Lensectomy** and **membranectomy** to prevent angle closure