Post-op Endophthalmitis after CE

- **Acute** = Within [time frame]
- **Chronic** = More than [time frame]

(Cataract extraction)
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery

- **Chronic** = More than 6 weeks after surgery
Acute post-CE endophthalmitis
Post-op Endophthalmitis after CE

**Acute** = Within 6 **weeks** of surgery

*Technically, endophthalmitis within 6 weeks post-op qualifies as ‘acute.’ However, what is the typical time-to-presentation?*
Post-op Endophthalmitis after CE

- **Acute** = Within **6 weeks** of surgery

  *Technically, endophthalmitis within 6 weeks post-op qualifies as ‘acute.’*
  *However, what is the typical time-to-presentation?*
  *Usually within 24 – 72 hrs of surgery*
Post-op Endophthalmitis after CE

- **Acute** = Within **6 weeks** of surgery

Technically, endophthalmitis within 6 weeks post-op qualifies as ‘acute.’ However, what is the typical time-to-presentation? Usually within 24 – 72 hrs of surgery

What should you consider if presentation is greater than about 1 week?
Post-op Endophthalmitis after CE

**Acute** = Within **6 weeks** of surgery

*Technically, endophthalmitis within 6 weeks post-op qualifies as ‘acute.’ However, what is the typical time-to-presentation? Usually within 24 – 72 hrs of surgery*

*What should you consider if presentation is greater than about 1 week? A less virulent bacterial species, or a fungal pathogen, may be the agent*
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery

  Technically, endophthalmitis within 6 weeks post-op qualifies as ‘acute.’
  However, what is the typical time-to-presentation?
  Usually within 24 – 72 hrs of surgery

  What should you consider if presentation is greater than about 1 week?
  A less virulent bacterial species, or a fungal pathogen, may be the agent

  What should you consider if endophthalmitis presents in less than 24 hrs?
A

Post-op Endophthalmitis after CE

- **Acute** = Within **6 weeks** of surgery

> Technically, endophthalmitis within 6 weeks post-op qualifies as ‘acute.’
> However, what is the typical time-to-presentation?
> Usually within 24 – 72 hrs of surgery

- What should you consider if presentation is greater than about 1 week?
  A less virulent bacterial species, or a fungal pathogen, may be the agent

> What should you consider if endophthalmitis presents in less than 24 hrs?
  It may be **noninfectious** endophthalmitis
Post-op Endophthalmitis after CE

- Acute = Within 6 weeks of surgery

Technically, endophthalmitis within 6 weeks post-op qualifies as ‘acute.’
However, what is the typical time-to-presentation?
Usually within 24 – 72 hrs of surgery

What should you consider if presentation is greater than about 1 week?
A less virulent bacterial species, or a fungal pathogen, may be the agent

What should you consider if endophthalmitis presents in less than 24 hrs?
It may be noninfectious endophthalmitis

What is the other name for noninfectious post-op endophthalmitis?
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery

  Technically, endophthalmitis within 6 weeks post-op qualifies as ‘acute.’
  However, what is the typical time-to-presentation?
  Usually within 24 – 72 hrs of surgery

- What should you consider if presentation is greater than about 1 week?
  A less virulent bacterial species, or a fungal pathogen, may be the agent

- What should you consider if endophthalmitis presents in less than 24 hrs?
  It may be noninfectious endophthalmitis

- What is the other name for noninfectious post-op endophthalmitis?
  Toxic anterior segment syndrome (TASS; more on this later in the set)
Post-op Endophthalmitis after CE

- **Acute** = Within **6 weeks** of surgery
  - Bugs: **Staph**, **Staph aureus**, **Strep sp**

- **Chronic** = More than **6 weeks** after surgery
  - Bugs: **P. acnes**, **coag (-)**, **Staph**, **fungus**

Peripheral white plaque in bag = **P. acnes**

Management:
- Intravitreal antibiotics are usually **not** helpful, unless it follows PPV and subtotal capsulectomy
- Use vancomycin 1mg, either in the vitreous or in the bag
- If recurs:
  - **Total capsulectomy with IOL removal or exchange**
A

- **Post-op Endophthalmitis after CE**
  - *Acute* = Within 6 weeks of surgery
    - Bugs: *Coag (-) Staph, Staph aureus, Strep sp*
  
  - *Chronic* = More than 6 weeks after surgery
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, *Staph aureus*, *Strep sp*

*What is the source of these bugs (where do they come from)?*
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp

What is the source of these bugs (where do they come from)?
The ocular surface, lids and lashes
Q

- **Post-op Endophthalmitis after CE**
  - *Acute* = Within 6 weeks of surgery
  - Bugs: **Coag (-) Staph, Staph aureus, Strep sp**

*What is the source of these bugs (where do they come from)?*
The ocular surface, lids and lashes

*Which bug is the most common cause of acute post-CE endophthalmitis?*
Post-op Endophthalmitis after CE

- Acute = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp

What is the source of these bugs (where do they come from)?
The ocular surface, lids and lashes

Which bug is the most common cause of acute post-CE endophthalmitis?
Coag (-) Staph
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: **Coag (-) Staph**, *Staph aureus*, *Strep sp*

What is the source of these bugs (where do they come from)?
The ocular surface, lids and lashes

What specific bug is this?
**Coag (-) Staph**

Which bug is the most common cause of acute post-CE endophthalmitis?

What percent of acute post-CE infectious endophthalmitis does it account for?
About 70
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: **Coag (-) Staph**, Staph aureus, Strep sp

What is the source of these bugs (where do they come from)?
The ocular surface, lids and lashes

What specific bug is this?
S. epidermidis

Which bug is the most common cause of acute post-CE infectious endophthalmitis?
Coag (-) Staph

What percent of acute post-CE infectious endophthalmitis does it account for?
About 70
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
- **Bugs:** Coag (-) Staph, Staph aureus, Strep sp

**What is the source of these bugs (where do they come from)?**
The ocular surface, lids and lashes

**What specific bug is this?**
S. epidermidis

**What percent of acute post-CE infectious endophthalmitis does it account for?**
About 70%
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: **Coag (-) Staph**, *Staph aureus*, *Strep sp*

**What is the source of these bugs (where do they come from)?**
The ocular surface, lids and lashes

**Which bug is the most common cause of acute post-CE endophthalmitis?**
*S. epidermidis*

**What percent of acute post-CE infectious endophthalmitis does it account for?**
About 70
Post-op Endophthalmitis after CE

- *Acute* = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, *Staph aureus*, *Strep sp*

- *Chronic* = More than 6 weeks after surgery

Generally speaking, what would be the typical timeframe for onset of endophthalmitis owing to each of these bugs?
A

- Post-op Endophthalmitis after CE
  - **Acute** = Within 6 weeks of surgery
    - Bugs: **Coag (-)** Staph, **Staph aureus**, **Strep sp**
      - The less virulent *S. epi* will take **5-7 days** to declare
      - The more virulent *S. aureus* and *Strep sp.* will declare within **4 days**
  - **Chronic** = More than 6 weeks after surgery
    - Presents with indolent course or progressive inflammation
    - Bugs: **P. acnes**, **coag (-)** Staph, **fungus**
      - Peripheral white plaque in bag = **P. acnes**
    - Management:
      - Intravitreal antibiotics are usually not helpful, unless it follows PPV and subtotal capsulectomy
      - Use vancomycin 1mg, either in the vitreous or in the bag
      - If recurs: Total capsulectomy with IOL removal or exchange

**Generally speaking, what would be the typical timeframe for onset of endophthalmitis owing to each of these bugs?**
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per study (abb.)

- **Chronic** = More than 6 weeks after surgery
A

- Post-op Endophthalmitis after CE
  - *Acute* = Within 6 weeks of surgery
    - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
    - Management: Per EVS
  - *Chronic* = More than 6 weeks after surgery
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?

Endophthalmitis Vitrectomy Study
• **Post-op Endophthalmitis after CE**
  
  • *Acute* = Within 6 weeks of surgery
  
  • Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
  
  • Management: Per **EVS**

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**What does EVS stand for?**

Endophthalmitis Vitrectomy Study
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?

Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?

With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of… [surgical procedure]
2)
A

- Post-op Endophthalmitis after CE
  - *Acute* = Within 6 weeks of surgery
    - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
    - Management: Per EVS

**What does EVS stand for?**
*Endophthalmitis Vitrectomy Study*

**What questions did the EVS seek to answer?**
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of…PPV?
2) *(pars plana vitrectomy)*
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

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**What does EVS stand for?**
Endophthalmitis Vitrectomy Study

**What questions did the EVS seek to answer?**
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) How effective are...
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) How effective are...systemic antibiotics?
**Post-op Endophthalmitis after CE**
- **Acute** = Within 6 weeks of surgery
  - Bugs: **Coag (-) Staph, Staph aureus, Strep sp**
  - Management: Per **EVS**

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**What does EVS stand for?**
*Endophthalmitis Vitrectomy Study*

**What questions did the EVS seek to answer?**
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) How effective are...systemic antibiotics?

**In evaluating PPV, what was it compared to?**
• **Post-op Endophthalmitis after CE**
  
  **Acute** = Within 6 weeks of surgery
  
  - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
  
  - Management: Per **EVS**

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**What does EVS stand for?**
*Endophthalmitis Vitrectomy Study*

**What questions did the EVS seek to answer?**
With respect to the management of acute post-CE infectious endophthalmitis:

1) What is the role of...PPV?
2) How effective are...systemic antibiotics?

**In evaluating PPV, what was it compared to?**
Intravitreal antibiotics
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) **What is the role of...PPV?**
2) How effective are...systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to PPV efficacy? Did it improve visual outcomes?
Post-op Endophthalmitis after CE

**Acute** = Within 6 weeks of surgery
- Bugs: Coag (-) Staph, Staph aureus, Strep sp
- Management: Per EVS

**Chronic** = More than 6 weeks after surgery
- Presents w/ indolent course or progressive inflammation
- Bugs: P. acnes, coag (-) Staph, fungus
  - Peripheral white plaque in bag = P. acnes
- Management:
  - Intravitreal antibiotics are usually not helpful, unless it follows PPV and subtotal capsulectomy
  - Use vancomycin 1mg, either in the vitreous or in the bag
  - If recurs: Total capsulectomy with IOL removal or exchange

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of PPV?
2) How effective are systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to PPV efficacy? Did it improve visual outcomes?
Depends—if VA was LP or worse at presentation, visual outcome was better with PPV. However, if VA was better than LP, there was no difference between the PPV and intravitreal-antibiotics-only groups with respect to final visual outcome.
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) **What is the role of...PPV?**
2) How effective are...systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to PPV efficacy? Did it improve visual outcomes?
Depends—if VA was LP or worse at presentation, visual outcome was better with PPV. However, if VA was better than LP, there was no difference between the PPV and intravitreal-antibiotics-only groups with respect to final visual outcome.
What did the study show with respect to systemic antibiotics and visual outcome?

IV antibiotics did not improve final visual outcome.

Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) How effective are...systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to systemic antibiotics and visual outcome?
Post-op Endophthalmitis after CE

- Acute = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) How effective are...systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to systemic antibiotics and visual outcome?
Intravenous antibiotics did not improve final visual outcome
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) How effective are...systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to systemic antibiotics and visual outcome?
**Intravenous antibiotics did not improve final visual outcome**

Why was this conclusion controversial?
**Q/A**

- **Post-op Endophthalmitis after CE**
  - **Acute** = Within 6 weeks of surgery
    - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep* sp
    - Management: Per **EVS**

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What does EVS stand for?
**Endophthalmitis Vitrectomy Study**

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) **How effective are...systemic antibiotics?**

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to systemic antibiotics and visual outcome?
**Intravenous antibiotics did not improve final visual outcome**

Why was this conclusion controversial?
The antibiotics used in the EVS were **ceftazidime** and **amikacin**.
Post-op Endophthalmitis after CE

Acute = Within 6 weeks of surgery

- Bugs: Coag (-) Staph, Staph aureus, Strep sp

Management: Per EVS

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of…PPV?
2) How effective are…systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to systemic antibiotics and visual outcome?
Intravenous antibiotics did not improve final visual outcome

Why was this conclusion controversial?
The antibiotics used in the EVS were ceftazidime and amikacin.
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

What does EVS stand for?
Endophthalmitis Vitrectomy Study

What questions did the EVS seek to answer?
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of…PPV?
2) How effective are…systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

What did the study show with respect to systemic antibiotics and visual outcome?
**Intravenous antibiotics did not improve final visual outcome**

Why was this conclusion controversial?
The antibiotics used in the EVS were ceftazidime and amikacin. The EVS was criticized for the choice of Ceftaz over vancomycin, which has better coverage of Gram+ cocci.
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep* sp
  - Management: Per EVS

**What does EVS stand for?**  
Endophthalmitis Vitrectomy Study

**What questions did the EVS seek to answer?**  
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) How effective are...systemic antibiotics?

**In evaluating PPV, what was it compared to?**  
Intravitreal antibiotics

**What did the study show with respect to systemic antibiotics and visual outcome?**  
**Intravenous antibiotics did not improve final visual outcome**

**Why was this conclusion controversial?**  
The antibiotics used in the EVS were *ceftazidime* and *amikacin*. The EVS was criticized for the choice of Ceftaz over *vancomycin*, which has better coverage of Gram+ cocci.
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

**What does EVS stand for?**
Endophthalmitis Vitrectomy Study

**What questions did the EVS seek to answer?**
With respect to the management of acute post-CE infectious endophthalmitis:
1) What is the role of...PPV?
2) How effective are...systemic antibiotics?

In evaluating PPV, what was it compared to?
Intravitreal antibiotics

**What did the study show with respect to systemic antibiotics and visual outcome?**
Intravenous antibiotics did not improve final visual outcome

**Why was this conclusion controversial?**
The antibiotics used in the EVS were **ceftazidime** and **amikacin**. The EVS was criticized for the choice of Ceftaz over **vancomycin**, which has better coverage of Gram+ cocci. Because of this, the effectiveness of IV abx remains an open question for many clinicians.
Q

- Post-op Endophthalmitis after CE
  - Acute = Within 6 weeks of surgery
    - Bugs: Coag (-) Staph, Staph aureus, Strep sp
    - Management: Per EVS
  - Chronic = More than 6 weeks after surgery
    - Bugs: P. acnes, coag (-) Staph, fungus
      - Peripheral white plaque in bag = P. acnes
    - Management:
      - Intravitreal antibiotics are usually not helpful, unless it follows PPV and subtotal capsulectomy
      - Use vancomycin 1mg, either in the vitreous or in the bag
      - If recurs: Total capsulectomy with IOL removal or exchange

A patient s/p CE 6 months prior presents with endophthalmitis. Should EVS findings dictate management?
Post-op Endophthalmitis after CE

- Acute = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- Chronic = More than 6 weeks after surgery
  - Peripheral white plaque in bag = P. acnes
  - Management:
    - Intravitreal antibiotics are usually not helpful, unless it follows PPV and subtotal capsulectomy
    - Use vancomycin 1mg, either in the vitreous or in the bag
    - If recurs: Total capsulectomy with IOL removal or exchange

A patient s/p CE 6 months prior presents with endophthalmitis. Should EVS findings dictate management? Not necessarily. The EVS addressed endophthalmitis developing within 6 weeks of CE, so extrapolation to this situation would constitute ‘off label use.’
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents with indolent course or progressive inflammation
  - Bugs: *P. acnes*, coag (-), *Staph*, fungus
  - Peripheral white plaque in bag = *P. acnes*
  - Management:
    - Intravitreal antibiotics are usually not helpful, unless it follows PPV and subtotal capsulectomy
    - Use vancomycin 1mg, either in the vitreous or in the bag
    - If recurs: Total capsulectomy with IOL removal or exchange

A patient s/p CE 6 months prior presents with endophthalmitis. Should EVS findings dictate management?
Not necessarily. The EVS addressed endophthalmitis developing within 6 weeks of CE, so extrapolation to this situation would constitute ‘off label use.’

A patient s/p trab 3 weeks prior presents with endophthalmitis. Should EVS findings dictate management?
A

● **Post-op Endophthalmitis after CE**
  - *Acute* = Within 6 weeks of surgery
    - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
  - **Management:** Per *EVS*
  - *Chronic* = More than 6 weeks after surgery

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A patient s/p CE 6 months prior presents with endophthalmitis. Should EVS findings dictate management?
Not necessarily. The EVS addressed endophthalmitis developing within 6 weeks of CE, so extrapolation to this situation would constitute ‘off label use.’

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A patient s/p trab 3 weeks prior presents with endophthalmitis. Should EVS findings dictate management?
Again, not necessarily. The EVS addressed endophthalmitis after CE. As in the previous scenario, to extrapolate to this situation may not be justified or appropriate.
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, *Staph aureus*, *Strep sp*
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation

(No question—proceed when ready)
Q

Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, *Staph aureus*, *Strep sp*
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *, *, *
  - Management:
    - Intravitreal antibiotics are usually not helpful, unless it follows PPV and subtotal capsulectomy
    - Use vancomycin 1mg, either in the vitreous or in the bag
    - If recurs: Total capsulectomy with IOL removal or exchange
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) \textit{Staph}, \textit{Staph aureus}, \textit{Strep sp}
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: \textit{P acnes}, coag (-) \textit{Staph}, fungus
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P acnes*, coag (-) Staph, fungus

Which one of these is the #1 cause of chronic endophthalmitis after cataract surgery?
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: **P acnes**, coag (-) Staph, fungus

Which one of these is the #1 cause of chronic endophthalmitis after cataract surgery?

**P acnes**
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: \textit{P acnes}, coag (-) Staph, fungus

**Which one of these is the #1 cause of chronic endophthalmitis after cataract surgery?**

\textit{P acnes}

**Microbiologically speaking, how is the bacterium \textit{P acnes} classified?**
A

- Post-op Endophthalmitis after CE
  - **Acute** = Within 6 weeks of surgery
    - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
    - Management: Per EVS
  - **Chronic** = More than 6 weeks after surgery
    - Presents w/ indolent course or progressive inflammation
    - Bugs: *P acnes*, coag (-) *Staph*, fungus

Which one of these is the #1 cause of chronic endophthalmitis after cataract surgery? *P acnes*

*Microbiologically speaking, how is the bacterium *P acnes* classified?*  
It is an anaerobic, Gram(+), pleomorphic rod
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, *Staph aureus*, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P. acnes*, coag (-) Staph, fungus

Which one of these is the #1 cause of chronic endophthalmitis after cataract surgery? *P. acnes*

*Microbiologically speaking, how is the bacterium P acnes classified?*
It is an anaerobic, Gram(+), pleomorphic rod

*Is it part of the normal ocular/periocular microbial flora?*
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
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---

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- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P acnes*, coag (-) *Staph*, fungus

*By definition, chronic endophthalmitis commences 6+ weeks after surgery. In terms of P acnes… What is the average amount of time between surgery and presentation?*
A

Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

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  - Bugs: *P acnes*, coag (-) Staph, fungus

*By definition, chronic endophthalmitis commences 6+ weeks after surgery. In terms of P acnes… What is the average amount of time between surgery and presentation? 3-4 months*
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
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By definition, chronic endophthalmitis commences 6+ weeks after surgery. In terms of P. acnes...

What is the average amount of time between surgery and presentation? **3-4 months**

What is the range?
Post-op Endophthalmitis after CE

**Acute** = Within 6 weeks of surgery
- Bugs: Coag (-) Staph, Staph aureus, Strep sp
- Management: Per EVS

**Chronic** = More than 6 weeks after surgery
- Presents w/ indolent course or progressive inflammation
- Bugs: *P acnes*, coag (-) Staph, fungus

By definition, chronic endophthalmitis commences 6+ weeks after surgery. In terms of *P acnes*…
What is the average amount of time between surgery and presentation? **3-4 months**
What is the range? Two weeks to **several years**
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P. acnes*, coag (-) Staph, fungus

*Is the inflammation in P acnes chronic post-op endophthalmitis granulomatous, or nongranulomatous?*
Post-op Endophthalmitis after CE

*Acute* = Within 6 weeks of surgery
- Bugs: Coag (-) Staph, *Staph aureus*, *Strep sp*
- Management: Per EVS

*Chronic* = More than 6 weeks after surgery
- Presents w/ indolent course or progressive inflammation
- Bugs: *P acnes*, coag (-) Staph, fungus

*Is the inflammation in P acnes chronic post-op endophthalmitis granulomatous, or nongranulomatous?*  
Granulomatous
Q

- **Post-op Endophthalmitis after CE**
  - **Acute** = Within 6 weeks of surgery
    - Bugs: Coag (-) Staph, Staph aureus, Strep sp
    - Management: Per EVS
  - **Chronic** = More than 6 weeks after surgery
    - Presents w/ indolent course or progressive inflammation
    - Bugs: *P. acnes*, coag (-) Staph, fungus

*Is the inflammation in *P. acnes* chronic post-op endophthalmitis granulomatous, or nongranulomatous?*  
Granulomatous

*What is the classic response to a trial of steroids?*
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
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  - Bugs: *P acnes*, coag (-) *Staph*, fungus

*Is the inflammation in *P acnes* chronic post-op endophthalmitis granulomatous, or nongranulomatous?*
Granulomatous

*What is the classic response to a trial of steroids?*
The inflammation will lessen, then recur (or even worsen) when the steroids are stopped
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, *Staph aureus*, *Strep sp*
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P acnes*, coag (-) Staph, fungus
    - Peripheral white plaque in bag = one of the above bugs
A

Post-op Endophthalmitis after CE

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  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: P acnes, coag (-) Staph, fungus
    - Peripheral white plaque in bag = P acnes
*P. acnes* post-CE endophthalmitis
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Post-op Endophthalmitis after CE

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  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
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- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P. acnes*, coag (-) Staph, fungus
    - Peripheral white plaque in bag = *P. acnes*

How does the fact that *P. acnes* is an anaerobe play a role in its virulence as a cause of chronic post-op endophthalmitis?
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, *Staph aureus*, *Strep sp*
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P acnes*, coag (-) Staph, fungus
    - Peripheral white plaque in bag = *P acnes*

How does the fact that *P acnes* is an anaerobe play a role in its virulence as a cause of chronic post-op endophthalmitis? The space between the IOL and the bag is relatively anaerobic, thus allowing *P acnes* to flourish, eventually forming a colony large enough to be seen at the slit lamp (ie, the notorious ‘white plaque’).
How does the fact that P. acnes is an anaerobe play a role in its virulence as a cause of chronic post-op endophthalmitis?

The space between the IOL and the bag is relatively anaerobic, thus allowing P. acnes to flourish, eventually forming a colony large enough to be seen at the slit lamp (ie, the notorious ‘white plaque’).

Suppose you (mis)took a P. acnes plaque for a PCO, and YAG’d it. What would likely result?
A

- **Post-op Endophthalmitis after CE**
  - **Acute** = Within 6 weeks of surgery
    - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep* sp
    - Management: Per EVS
  - **Chronic** = More than 6 weeks after surgery
    - Presents w/ indolent course or progressive inflammation
    - Bugs: *P acnes*, coag (-) *Staph*, fungus
      - **Peripheral white plaque in bag** = *P acnes*

How does the fact that *P acnes* is an anaerobe play a role in its virulence as a cause of chronic post-op endophthalmitis?
The space between the IOL and the bag is relatively anaerobic, thus allowing *P acnes* to flourish, eventually forming a colony large enough to be seen at the slit lamp (ie, the notorious ‘white plaque’)

Suppose you (mis)took a *P acnes* plaque for a PCO, and YAG’d it. What would likely result?
Seeding of the vitreous with the organism, which would cause the vitritis to worsen
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: \textit{P} acnes, coag (-) Staph, fungus
    - Peripheral white plaque in bag = \textit{P} acnes
  - Management of \textit{P} acnes post-op endophthalmitis:
    - Intraocular antibiotics are usually not helpful, unless it follows
      and ---in which case, use abx.

"Q"
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P acnes*, coag (-) Staph, fungus
    - Peripheral white plaque in bag = *P acnes*
  - Management of *P acnes* post-op endophthalmitis:
    - Intraocular antibiotics are usually not helpful, unless it follows PPV and capsulectomy--in which case, use vancomycin
Post-op Endophthalmitis after CE

**Acute** = Within 6 weeks of surgery
- Bugs: Coag (-) Staph, *Staph aureus*, *Strep sp*
- Management: Per EVS

**Chronic** = More than 6 weeks after surgery
- Presents w/ indolent course or progressive inflammation
- Bugs: *P acnes*, coag (-) Staph, fungus
  - Peripheral white plaque in bag = *P acnes*
- Management of *P acnes* post-op endophthalmitis:
  - Intraocular antibiotics are usually not helpful, unless it follows PPV and capsulectomy--in which case, use vancomycin
  - If recurs: IOL removal or exchange surgery
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P acnes*, coag (-) *Staph*, fungus
    - Peripheral white plaque in bag = *P acnes*
  - Management of *P acnes* post-op endophthalmitis:
    - Intraocular antibiotics are usually not helpful, unless it follows PPV and capsulectomy—in which case, use vancomycin
    - If recurs: IOL removal or exchange
Post-op Endophthalmitis after CE

Which fungi are most commonly implicated in chronic post-CE endophthalmitis?

- Bugs: *P acnes*, coag (-) *Staph*, fungus
  - Peripheral white plaque in bag = *P acnes*

Management of *P acnes* post-op endophthalmitis:
  - Intraocular antibiotics are usually not helpful, unless it follows PPV and capsulectomy—in which case, use vancomycin
  - If recurs: IOL removal or exchange

Which fungi are most commonly implicated in chronic post-CE endophthalmitis?

- *Candida*, *Aspergillus*, and several others you (and I) have never heard of

How does fungal post-CE endophthalmitis present?

In a manner very similar to that of *P acnes* post-CE endophthalmitis, unfortunately

Are there any clinical findings that are more suggestive of a fungal etiology?

Yes. One is found in the anterior segment; the other in the vitreous cavity:
  - Anterior segment: The presence of corneal infiltrates, and/or scleritis
  - Vitreous: The presence of snowballs, especially in a ‘string of pearls’ configuration
Post-op Endophthalmitis after CE

**Within 6 weeks of surgery**

**Management:** Per EVS

**More than 6 weeks after surgery**

**Present with indolent course or progressive inflammation**

**Bugs:**
- **Staph**
- **Staph aureus**
- **Strep sp**
- **P acnes**, coag (-) **Staph**, **fungus**

**Peripheral white plaque in bag = P acnes**

**Candida, Aspergillus**, and several others you (and I) have never heard of

**Anterior segment:**
- The presence of corneal infiltrates, and/or scleritis

**Vitreous:**
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**Which fungi are most commonly implicated in chronic post-CE endophthalmitis?**

**Candida, Aspergillus, and several others you (and I) have never heard of**

**Management of P acnes post-op endophthalmitis:**
- Intraocular antibiotics are usually **not** helpful, unless it follows **PPV and capsulectomy**—in which case, use **vancomycin**
- If recurs: **IOL removal or exchange**
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus
- **Chronic** = More than 6 weeks after surgery
  - Presents with indolent course or progressive inflammation
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  - Peripheral white plaque in bag = P acnes

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- Intraocular antibiotics are usually not helpful, unless it follows PPV and capsulectomy—in which case, use **vancomycin**
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**Q**

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Post-op Endophthalmitis after CE

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Post-op Endophthalmitis after CE

**Which fungi are most commonly implicated in chronic post-CE endophthalmitis?**
Candida, Aspergillus, and several others you (and I) have never heard of.

**How does fungal post-CE endophthalmitis present?**
In a manner very similar to that of *P. acnes* post-CE endophthalmitis, unfortunately.

**Are there any clinical findings that are more suggestive of a fungal etiology?**

- **Bugs:** *P. acnes*, coag (-) Staph, *fungus*
  - Peripheral white plaque in bag = *P. acnes*

- **Management of *P. acnes* post-op endophthalmitis:**
  - Intraocular antibiotics are usually **not** helpful, unless it follows PPV and capsulectomy---in which case, use **vancomycin**
  - If recurs: IOL removal or exchange
Post-op Endophthalmitis after CE

- **Which fungi are most commonly implicated in chronic post-CE endophthalmitis?**
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- **Are there any clinical findings that are more suggestive of a fungal etiology?**
  - Yes. One is found in the anterior segment; the other in the vitreous cavity:
    - **Anterior segment:**
    - **Vitreous:**

- **Bugs:** *P acnes*, coag (-) Staph, fungus
  - Peripheral white plaque in bag = *P acnes*

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  - Intraocular antibiotics are usually not helpful, unless it follows PPV and capsulectomy—in which case, use vancomycin
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Post-op Endophthalmitis after CE

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Are there any clinical findings that are more suggestive of a fungal etiology?
Yes. One is found in the anterior segment; the other in the vitreous cavity:

--- Anterior segment: The presence of corneal infiltrates, iris mass, and/or scleritis.

--- Vitreous:

- Bugs: *P. acnes*, coag (-) Staph, *fungus*
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Post-op Endophthalmitis after CE

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Yes. One is found in the anterior segment; the other in the vitreous cavity:
--Anterior segment: The presence of corneal infiltrates, iris mass, and/or scleritis
--Vitreous:

- Bugs: \( P\ acnes, \) coag (-) Staphylococcus, \textbf{fungus}
  - Peripheral white plaque in bag = \( P\ acnes \)

Management of \( P\ acnes \) post-op endophthalmitis:
- Intraocular antibiotics are usually \textbf{not} helpful, unless it follows PPV and capsulectomy---in which case, use \textbf{vancomycin}
- If recurs: IOL removal or exchange
Post-op Endophthalmitis after CE

- **Which fungi are most commonly implicated in chronic post-CE endophthalmitis?**
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  - Yes. One is found in the anterior segment; the other in the vitreous cavity:
    - **Anterior segment:** The presence of corneal infiltrates, iris mass, and/or scleritis
    - **Vitreous:** The presence of snowballs, especially in a "string of pearls" configuration

- **Bugs:**
  - *P. acnes*, coag (-) Staph, fungus
    - Peripheral white plaque in bag = *P. acnes*

- **Management of *P. acnes* post-op endophthalmitis:**
  - Intraocular antibiotics are usually **not** helpful, unless it follows PPV and capsulectomy—in which case, use vancomycin
  - If recurs: IOL removal or exchange
Post-op Endophthalmitis after CE

- **Within 6 weeks of surgery**
  - **Bugs:** Coag (-) Staph, Staph aureus, Strep sp
  - **Management:** Per EVS

- **More than 6 weeks after surgery**
  - **Bugs:** P acnes, coag (-) Staph, fungus
  - **Peripheral white plaque in bag:** P acnes

**Which fungi are most commonly implicated in chronic post-CE endophthalmitis?**
- Candida, Aspergillus, and several others you (and I) have never heard of

**How does fungal post-CE endophthalmitis present?**
- In a manner very similar to that of *P acnes* post-CE endophthalmitis, unfortunately

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**Bugs:**
- *P acnes*, coag (-) *Staph*, fungus
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**Management of *P acnes* post-op endophthalmitis:**
- Intraocular antibiotics are usually **not** helpful, unless it follows PPV and capsullectomy—**in which case, use vancomycin**
- If recurs: IOL removal or exchange
Fungal endophthalmitis: ‘String of pearls’ in the vitreous
Post-op Endophthalmitis after CE

Which fungi are most commonly implicated in chronic post-CE endophthalmitis? 
Candida, Aspergillus, and several others you (and I) have never heard of

How does fungal post-CE endophthalmitis present? 
In a manner very similar to that of \textit{P. acnes} post-CE endophthalmitis, unfortunately

Are there any clinical findings that are more suggestive of a fungal etiology? 
Yes. One is found in the anterior segment; the other in the vitreous cavity: 
\begin{itemize}
  \item \textbf{Anterior segment:} The presence of corneal infiltrates, iris mass, and/or scleritis 
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\end{itemize}

How is chronic fungal post-CE endophthalmitis treated? 
With intravitreal antifungals (usually amphotericin and/or voriconazole). Vitrectomy may be necessary as well.

What about systemic antifungals? 
At this time, it is not clear what role (if any) systemic antifungals can/should play in managing post-op fungal endophthalmitis.
Post-op Endophthalmitis after CE

Which fungi are most commonly implicated in chronic post-CE endophthalmitis?
Candida, Aspergillus, and several others you (and I) have never heard of

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Peripheral white plaque in bag = \( P \) acnes

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How is chronic fungal post-CE endophthalmitis treated?
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What about systemic antifungals?
At this time, it is not clear what role (if any) systemic antifungals can/should play in managing post-op fungal endophthalmitis
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation

If the identity of the organism is in question, how should the clinician proceed?

- By obtaining aqueous (and vitreous, if PPV is performed) samples for culture and stains
- Which is of greater utility—cultures, or stains?
  - Stains, definitely. Remember, these pathogens are slow-growing and fastidious; thus, it could be weeks before they reveal themselves via culturing. On the other hand, staining has the potential to identify the culprit instantly.
A

- Post-op Endophthalmitis after CE
  - **Acute** = Within 6 weeks of surgery
    - Bugs: Coag (-) Staph, Staph aureus, Strep sp
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      - Peripheral white plaque in bag = *P acnes*
      - Management of *P acnes* post-op endophthalmitis:
        - Intraocular antibiotics are usually not helpful, unless it follows PPV and capsulectomy--in which case, use vancomycin
        - If recurs: IOL removal or exchange

If the identity of the organism is in question, how should the clinician proceed?
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Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

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  - Presents w/ indolent course or progressive inflammation
  - Bugs: *P acnes?* coag (-) *Staph? fungus?*
  - Peripheral white plaque in bag = *P acnes*

If the identity of the organism is in question, how should the clinician proceed? By obtaining aqueous (and vitreous, if PPV is performed) samples for **culture** and stains.

Which three culture media should be employed?
- Aerobic
- Anaerobic
- Fungal
Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) Staph, Staph aureus, Strep sp
  - Management: Per EVS

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If the identity of the organism is in question, how should the clinician proceed? By obtaining aqueous (and vitreous, if PPV is performed) samples for culture and stains.

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Post-op Endophthalmitis after CE

- **Acute** = Within 6 weeks of surgery
  - Bugs: Coag (-) *Staph*, *Staph aureus*, *Strep sp*
  - Management: Per EVS

- **Chronic** = More than 6 weeks after surgery
  - Presents w/ indolent course or progressive inflammation

*Peripheral white plaque in bag = *P acnes*

If the identity of the organism is in question, how should the clinician proceed? By obtaining aqueous (and vitreous, if PPV is performed) samples for culture and **stains**

Which two stains should be used? --

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Post-op Endophthalmitis after CE

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If the identity of the organism is in question, how should the clinician proceed? By obtaining aqueous (and vitreous, if PPV is performed) samples for culture and stains.

Which two stains should be used?
--Gram
--Giemsa
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Which is of greater utility--cultures, or stains?
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If the identity of the organism is in question, how should the clinician proceed?
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Which is of greater utility--cultures, or stains?
Stains, definitely. Remember, these pathogens are slow-growing and fastidious; thus, it could be weeks before they reveal themselves via culturing. On the other hand, staining has the potential to identify the culprit instantly.
Q

- **Post-op Endophthalmitis after CE**
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It is important to bear in mind that certain noninfectious conditions can present in a manner very much like chronic post-op infectious endophthalmitis. What are some of these conditions?

- Retained lens fragments
- IOL-related issues (eg, a square-edged haptic malpositioned in the ciliary sulcus; UGH syndrome)
- Intraocular lymphoma (ie, masquerade syndrome)

- If recurs: IOL removal or exchange
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Uveitis-glaucoma-hyphema (syndrome)
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What is UGH syndrome?
A constellation of sequelae that can occur when an inappropriately-sized AC IOL chafes the iris and other anterior-segment structures. Advances in IOL manufacturing have made it an uncommon occurrence.
UGH syndrome
Q

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What are the main risk factors for post-CE endophthalmitis?
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What are the main risk factors for post-CE endophthalmitis?

- Capsular rupture
- Prolonged surgery time
- Retained lens fragments
- Clear cornea incision
- Sutureless closure
- Wound leak on post-op day 1
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- Wound leak on POD1--one study pegged its increased relative risk at 44!
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**Wound leak on post-op day 1**

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**What is the Infectious Dose 50 (ID_{50}) for Staph epi if the capsule is intact?**
- About one million organisms

**What is the ID_{50} if the capsule is ruptured (ie, if the Staph epi gets into the vitreous)?**
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● *Noninfectious* endophthalmitis after CE
Noninfectious endophthalmitis after CE

Noninfectious endophthalmitis is also known as toxic anterior segment syndrome (TASS).

Key difference in presentation from infectious endophthalmitis: Markedly worse corneal edema.

Pathogenesis: Immune reaction to compromised surgical materials; e.g.:
- Denatured viscoelastic
- Preservatives in intracameral solutions
- IOL issues: sterilization technique; coatings
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How is the diagnosis of TASS made?

It is a diagnosis of exclusion—endophthalmitis in the absence of positive cultures and stains

How is it treated?

Steroids
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Infectious vs Noninfectious Post-op Endophthalmitis: Compare and Contrast

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**TASS**
- Infectious Endophthalmitis

**Acute Bacterial Endophthalmitis**
- Usually mild
- Always present
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Note: ? indicates that the presence or absence is indeterminate.
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*MVP = Mitral valve prolapse*
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With regards to cataract extraction (CE) surgery...

- Do intracameral antibiotics reduce the risk of endophthalmitis? Possibly

The efficacy of intracameral antibiotics for endophthalmitis prophylaxis in CE surgery is a complex and contentious issue at this time. A recent enormous multicenter prospective study in Europe found that infiltrating cefuroxime into the AC at the end of CE surgery resulted in a five-fold decrease in post-op endophthalmitis rates compared to placebo infiltration.

So case closed then—intracameral cefuroxime is the way to go, right?
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Not so fast. Cefuroxime doesn’t cover *Pseudomonas* and (especially) MRSA. Additionally, intracameral-appropriate doses of cefuroxime are not available in the US, and Big Pharm is not anxious to provide them (poor profit margin).

Like I said: A complex and contentious issue…