

Opportunistic Infections BHIVA Guidelines

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I have.....

1. Read all of the BHIVA guidelines
 12%
2. Read some of the BHIVA guidelines in their entirety
 56%
3. Browsed some of the guidelines
 28%
4. Never read any of the guidelines
 4%





- A 36 year old male attends A and E complaining of increasing shortness of breath and a dry cough
- He is a homosexual who has never had an HIV test
- He undergoes HIV testing and is found to be HIV positive



The Probable Diagnosis is

1. PCP
 92%
2. Tuberculosis
 5%
3. Bacterial chest infection
 2%
4. Swine flu
 1%

**A diagnosis of PCP is made
Po₂ is 8.7 kPa
I would treat this patient with..**

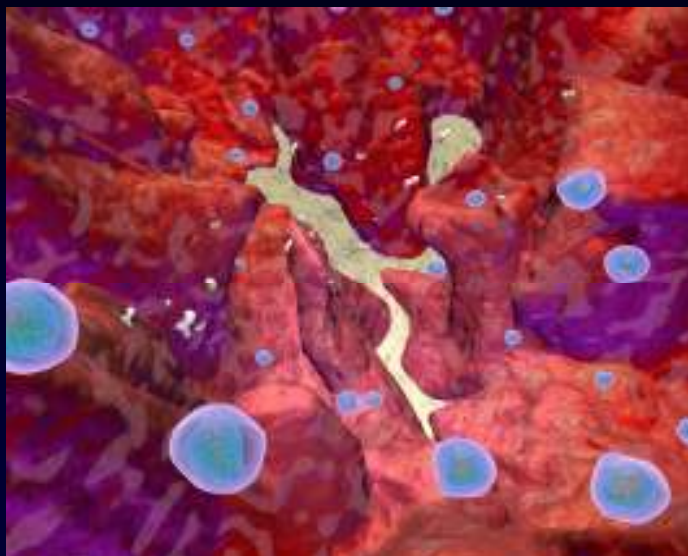
1. Cotrimoxazole
 93%
2. Pentamidine
 4%
3. Clindamycin and Primaquine
 1%
4. Atovaquone
 2%



- First line treatment for PCP is with high-dose trimethoprim-sulphamethoxazole (cotrimoxazole, TMP-SMX) (category 1b recommendation).

I would also give this patient corticosteroids

1. Yes
73%
2. No
27%



- Individuals with a PaO₂ <9.3 kPa (<70 mmHg) or SpO₂ <92%, should receive prednisolone 40 mg b.d. po, days 1–5, 40 mg o.d. po, days 6–10, 20 mg o.d. po, days 11–21[32,33]; or if unable to take oral medications, methylprednisolone at 75% of this dose

If this was a pregnant female would this change your management?

1. Yes



2. No







- Therapeutic options are identical to non-pregnant patients.
- Steroids should be administered as per standard guidelines for the treatment of PCP in non-pregnant women.

- The patient is commenced on iv cotrimoxazole and methylprednisolone
- A bronchoscopy is arranged to confirm the diagnosis



- At day 7 the patient is more short of breath
- Repeat X-ray shows a deteriorating radiological picture but no pneumothorax
- A decision is made to switch his therapy

I would switch this patient's therapy to

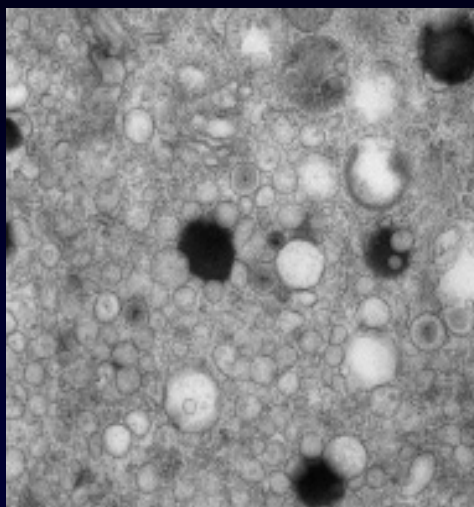
1. Clindamycin and Primaquine  69%
2. Dapsone and Trimethoprim  5%
3. Atovaquone  9%
4. Pentamidine  15%
5. Caspofungin  2%

PCP





- Current evidence suggests that there is little to choose in terms of efficacy between the different second line drugs (24-27,28)
Grade B Evidence.

	Mild $pO_2 > 11 \text{ kPa}$	Moderate $pO_2 \text{ 8.1-11 kPa}$	Severe $pO_2 < 8.1 \text{ kPa}$
First choice	Trimethoprim-sulfamethoxazole	Trimethoprim-sulfamethoxazole	Trimethoprim-sulfamethoxazole
Second choice	Clindamycin-primaquine	Clindamycin-primaquine	Clindamycin-primaquine
	Trimethoprim-dapsone	Trimethoprim-dapsone	Intravenous pentamidine
Third choice	Atovaquone	Intravenous pentamidine	
Fourth choice	Intravenous pentamidine	Atovaquone	

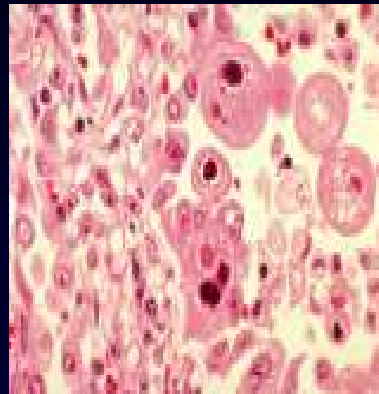
- He undergoes bronchoscopy
- CMV pcr on the bronchial washings is positive



I would..

1. Initiate treatment with intravenous ganciclovir
 63%
2. Initiate treatment with intravenous aciclovir
 4%
3. Ignore
 12%
4. Consider trans bronchial biopsy
 21%

- Culture, positive PCR or antigen assay for CMV from BAL or biopsy specimen do not distinguish CMV shedding from pneumonitis
- Diagnosis of CMV pneumonia requires a biopsy specimen to provide evidence of pulmonary involvement in association with a compatible clinical syndrome (category III recommendation)



When should this patient start HAART

1. As soon as possible



2. At the end of the treatment of PCP because of possible drug interactions

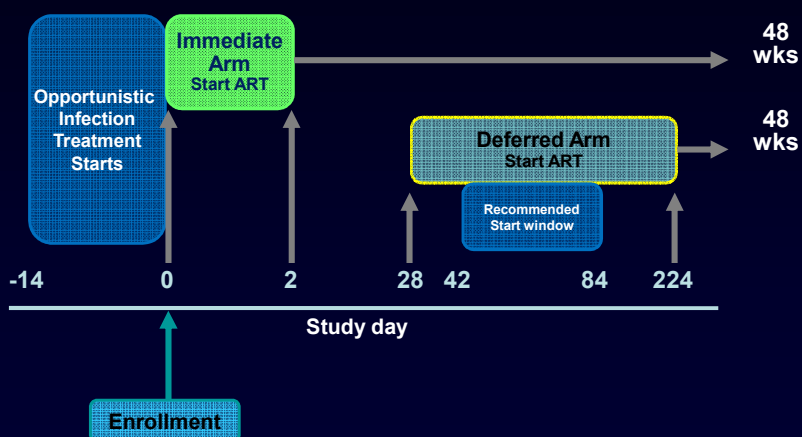


3. Not for two months post treatment because of the risk of IRIS



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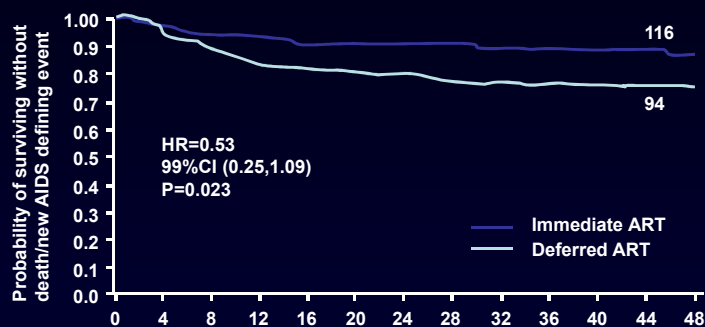
Study Design



Zolopa A, et al. 15th CROI; Boston, MA (2008); Abst. 142.

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Results Through 48 Weeks



- No difference in primary endpoint of virologic suppression
- No difference in IRIS (10 immediate, 13 deferred) or need for ART changes

Zolopa A, et al. 15th CROI; Boston, MA (2008); Abst. 142.

- He switches to Clindamycin and Primaquine
- He commences therapy with Truvada Ritonavir and Darunavir
- He makes an uneventful recovery
- His CD4 is reported as 12 cells/ml

He Requires Additional Prophylaxis with

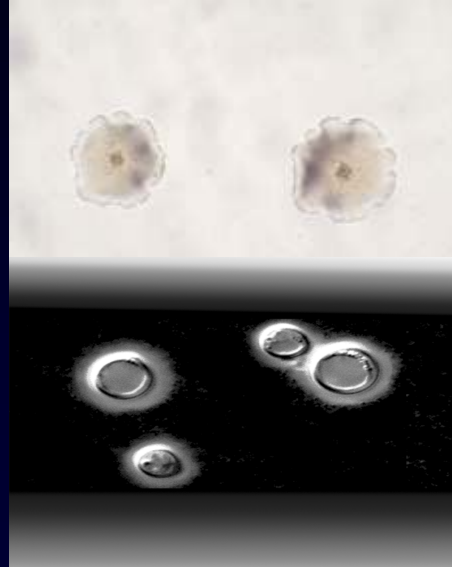
1. Azithromycin for MAC

65%
2. Rifabutin for MAC

2%
3. Azithromycin for MAC and Fluconazole against Cryptococcus

30%
4. Rifabutin for MAC and Itraconazole for Cryptococcus

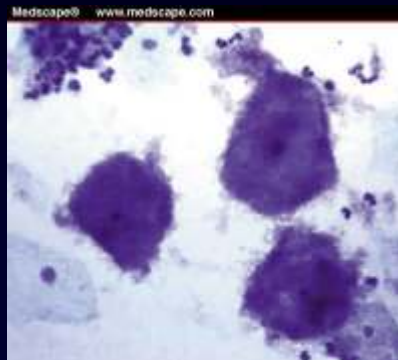
3%



- MAC prophylaxis *may* be considered for individuals with a CD4 count of <50 cells/ μ L prior to HAART initiation and withdrawn once the CD4 count rises to >50 cells/ μ L
- Rifabutin, clarithromycin, or azithromycin are acceptable, although azithromycin (1250 mg weekly) is preferred since it has fewer potential drug–drug interactions and is better tolerated
- Routine prophylaxis for cryptococcal disease is not indicated (category IV recommendation)

- The patient is commenced on azithromycin 1.25 g/week
- He makes an uneventful recovery and is discharged with out patient follow up

- He does not attend
- Six months later he is seen in casualty with nausea and vomiting, headaches and pyrexia
- Serum cryptococcal antigen is positive



1. He should undergo immediate lumbar puncture

8%

2. He should undergo CT/MRI followed by lumbar puncture

87%

3. No other test is needed, the diagnosis is clear and he requires treatment for Cryptococcal meningitis

5%

- All individuals with a positive serum Cryptococcal antigen should have a lumbar puncture performed (category III recommendation)







Lumbar Puncture or Spinal Tap

The patient undergoes lumbar puncture

- Microscopy - Budding yeasts
- Cells -12 RBCs/cmm
7 WBCs/cmm
- Glucose 2.5 mmol/l
(blood glucose
4.7mmol/l)
- Protein 0.42 g/l



The consultant appears on his ward round and screams at you that you have failed to perform the most essential test –do you





1. Ignore him he always shouts and screams
 9%
2. Apologize for not performing manometry
 71%
3. Apologize for not performing the HIV viral load
 15%
4. Blame the houseman
 5%

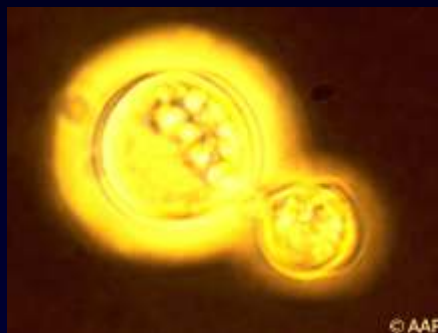
- All patients undergoing a CSF examination for suspected cryptococcal meningitis should have manometry performed (category III recommendation)
- *“If the opening pressure is greater than 250mm H₂O then this should be reduced to less than 200 mm H₂O or to 50% of the initial pressure. Lumbar punctures should be repeated daily until stable”.*



A diagnosis of Cryptococcal meningitis is made

First line treatment would be

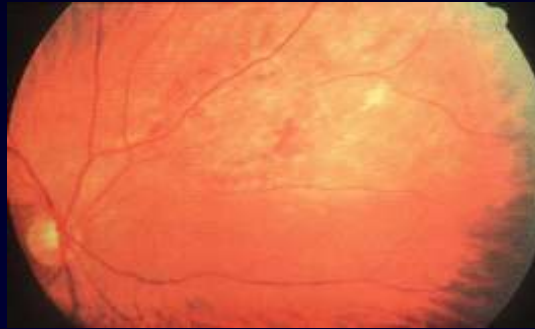
1. Amphotericin B
 25%
2. Amphotericin B plus flucytosine
 60%
3. Fluconazole
 9%
4. Fluconazole plus flucytosine
 6%



- Standard induction therapy of cryptococcal meningitis is with amphotericin B, usually combined with flucytosine 100 mg/kg/day (category Ib recommendation).
- Liposomal amphotericin B 4 mg/kg/day intravenously is the preferred amphotericin B preparation on the basis of lower nephrotoxicity than conventional preparations (category III recommendation).
- However, the advantages and disadvantages of the addition of flucytosine to amphotericin B deoxycholate in the HIV setting should be carefully weighed for each individual patient

- The patient is commenced on liposomal amphotericin B alone and improves dramatically and is switched to fluconazole orally after 2 weeks
- He is noted to be short of breath
- His Hb is 7.1 and an induced sputum confirms a diagnosis of PCP
- Due to his anaemia he is commenced on intravenous pentamidine

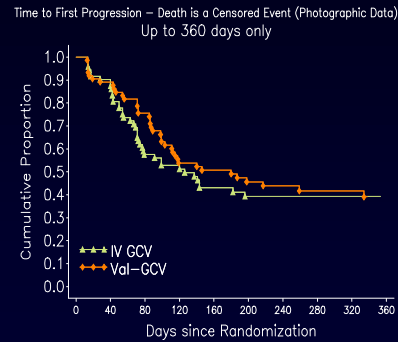
- He complains of blurring of vision and is seen by the ophthalmologist who diagnoses CMV retinitis



He should commence..

1. Oral ganciclovir
4%
2. Oral valganciclovir
25%
3. Intravenous ganciclovir
53%
4. Intravenous Foscarnet
8%
5. Intravenous Ganciclovir and Foscarnet
10%

- Oral valganciclovir is the preferred induction and maintenance therapy but iv ganciclovir, iv foscarnet, and iv cidofovir can be considered if there are potential issues with adherence, absorption or specific contraindications to oral therapy (category 1 recommendation)



- The patient is commenced on intravenous foscarnet
- He appears to be improving although he complains of increasing pins and needles and spasms in his hands and feet but is found dead in bed 5 days later

This was

1. Bad luck

9%

2. Ignorance -there is an important interaction between foscarnet and pentamidine but I can't remember what it is

32%

3. Ignorance- but referral to the guidelines would have saved him

59%

A-Z of Drugs

