



A CASE REPORT ON ENDOGENOUS ENDOPTHALMITIS SECONDARY TO PYOPNEUMOTHORAX IN AN ADOLESCENT

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ABSTRACT Endogenous endophthalmitis (EE) is an uncommon intraocular infection with potentially devastating visual consequences. Here, we report a case of 15-year-old female presented with sudden loss of vision in right eye with perception of light in the same eye associated with pain and redness. She was diagnosed with “pyopneumothorax” earlier with blood culture and gram stain positive for “Pseudomonas” and treated with i.v antibiotics and in-dwelling chest drain. A diagnosis of endogenous endophthalmitis secondary to pyopneumothorax was made based on clinical examination, B-scan, aqueous and vitreous tap culture.

KEYWORDS : Endophthalmitis, Endogenous, Pyopneumothorax, Pseudomonas

INTRODUCTION:

- Endogenous endophthalmitis is a devastating condition of the eye which frequently results in the loss of vision.
- Endogenous endophthalmitis most often seen in immunocompromised individuals, patients with prolonged in-dwelling medical devices and Intravenous drug abusers⁽¹⁾.
- It results from the hematogenous spread of microorganisms from distant foci of infection⁽³⁾
- Lack of established guidelines for management of endogenous endophthalmitis further confound this relatively unaddressed condition.

EPIDEMIOLOGY:

- In general, the prevalence is 2-8%, where in paediatric endophthalmitis reported to be 0.1% to 4% of all the cases⁽²⁾.
- The highest incidence reported is from India whereas the lowest incidence is from USA.

CASEREPORT:

- A 15-year-old female presented with sudden loss of vision in right eye associated with pain and redness since 1 day and fever since one week.
- She was diagnosed with pyopneumothorax with Gram stain and blood culture positive for Pseudomonas.
- She was treated with Intravenous antibiotics and an in-dwelling chest drain for pyopneumothorax

There is no similar history in the past.

Patient has no associated systemic illnesses other than pyopneumothorax.

GENERAL EXAMINATION:

Patient is conscious and coherent
Moderately built and nourished
Temperature: Febrile (100.3°F)
Pulserate: 106 beats/min
BP: 90/60mmHg

Respiratory Examination:

Inspection- Decreased chest movements on right side
Palpation- Decreased vocal fremitus on right side
Position of trachea shifted to opposite side on right side
Percussion- Hyperresonant to dull note on right side
Auscultation- Decreased breath sounds on right side



Ocular Examination:

Revealed Perception of Light (PL) in right eye and 6/9 vision in left eye.

Slit Lamp Examination Of Right Eye:

Eyelids are Oedematous
Conjunctiva is congested
Cornea shows peripheral 360-degree infiltrate with stromal oedema
Hypopyon of 1mm and exudates in pupillary area were noticed in anterior chamber.

Lens status and fundus view could not be made out.

Left Eye: Anterior and posterior segments were normal



Figure 1a : right eye showing conjunctival congestion



Figure 1b: right eye shows diffuse corneal haze and hypopyon

INVESTIGATIONS:

Gram stain revealed presence of Gram-negative bacteria and blood culture positive for pseudomonas.

On digital palpation IOP appears to be high Aqueous tap is positive for pseudomonas and Vitreous tap is Dry Blood picture showed increased levels of leukocytes, platelets and ESR count.

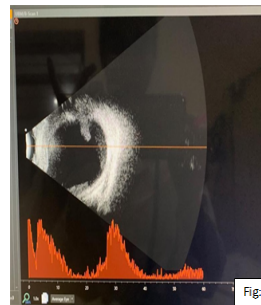


Fig: 2a

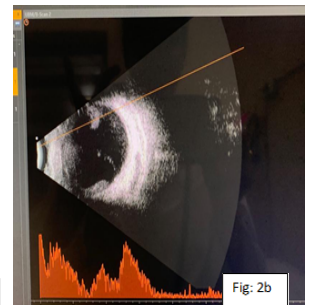
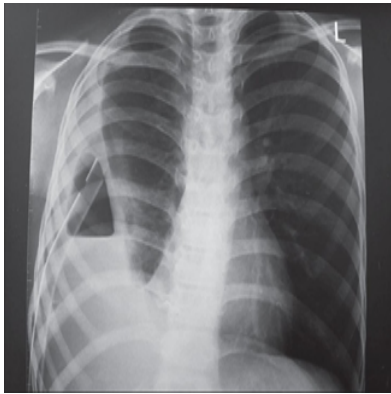


Fig: 2b

Figure 2a and 2b: B-Scan of right eye: Low to moderate vitreous echoes suggestive of vitreous exudates. Choroidal thickening present.



X-ray PA view showing pyopneumothorax with indwelling chest catheter

TREATMENT:

Patient was on higher intravenous antibiotics – vancomycin and ceftazidime. She was started on topical Moxifloxacin eye drops and Fortified Amikacin eye drops with which there was no significant regression of symptoms.

The condition ended up with extrusion of lens outside after 24 hours of her presentation with ocular symptoms.

Patient was explained regarding poor visual prognosis. Deferred evisceration and advised for follow-up after 3 days because of her poor general condition.

On follow-up, the patient denied to undergo evisceration and so, was continue on topical and systemic antibiotics.

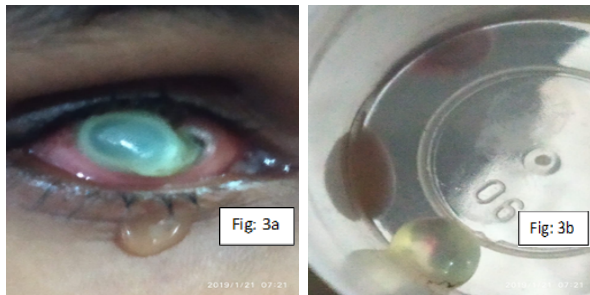


Figure 3a and 3b Showing Spontaneously Extruded Lens

DISCUSSION:

- Endogenous endophthalmitis is a rare but often devastating ocular condition.
- Similar to our case report, more recent reviews found that the right eye was more commonly affected suggesting that the anatomy of carotid vessels likely had little effect on the site of EE⁽³⁾.
- A systemic review found that 56% of patients with EE had an underlying medical illness that predisposed to infection, with diabetes mellitus being the commonest.
- Vancomycin and ceftazidime should be considered first-line intraocular antibiotics for Gram-positive and Gram-negative pathogens, respectively⁽³⁾.
- If the condition does not improve or if the condition deteriorates after medical treatment, surgical intervention such as vitrectomy should be considered⁽²⁾.
- Visual outcomes are often poor especially in patients infected with Gram-negative bacteria⁽⁵⁾⁽⁸⁾.

CONCLUSION:

This study provides information about clinical picture of Endogenous endophthalmitis. EE is an ophthalmological emergency that requires prompt diagnosis and management. The main challenges in the management of EE are early identification and delivering an adequate concentration of the drug in the vitreous cavity. It may be possible to overcome this challenge with direct intravitreal administration of the antibiotic.

metastatic spread of the organism to the ocular cavity. In mild cases of EE, systemic therapy is the mainstay of treatment. However, in severe cases, systemic therapy is adjuvant to the more aggressive intravitreal administration of drugs.

Pars Plana Vitrectomy has a diagnostic as well as therapeutic role in the management of EE. Vitrectomy may be strongly considered as a treatment option if there is no response to systemic or local therapy.

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Systemic therapy is used to treat the focus of infection causing the