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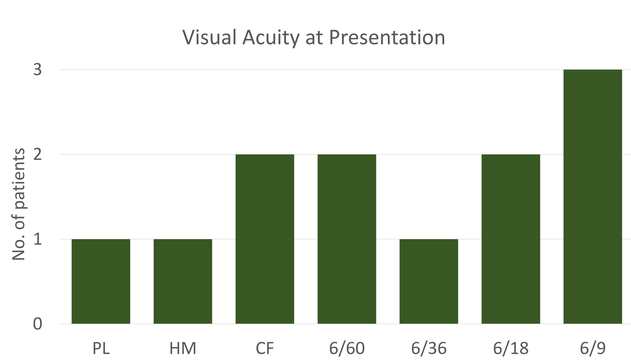
How are we investigating and managing cases of endogenous endophthalmitis?

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Background

There remains considerable variability in investigation and management of endogenous endophthalmitis (EE). Risk factors, bacterial or fungal, include: immunosuppression, PWID, source of sepsis, diabetes, recent hospitalisation or surgery[1]. We aimed to evaluate how EE is investigated and medically managed. Another Trust's guideline advises minimum investigations should be blood, urine and intraocular cultures[2]. A local referral pathway from Moorfield's to Guy's and St Thomas' NHS Foundation Trust exists but local guidelines on management are lacking.



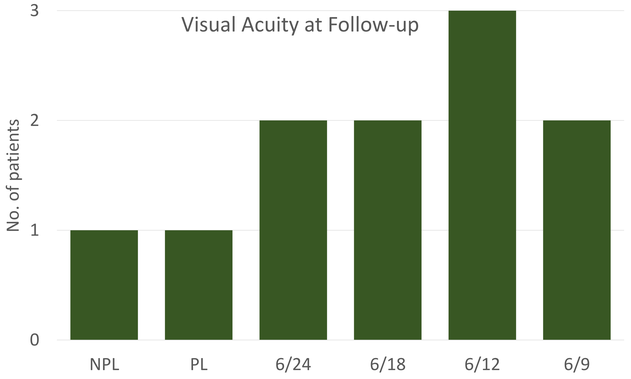
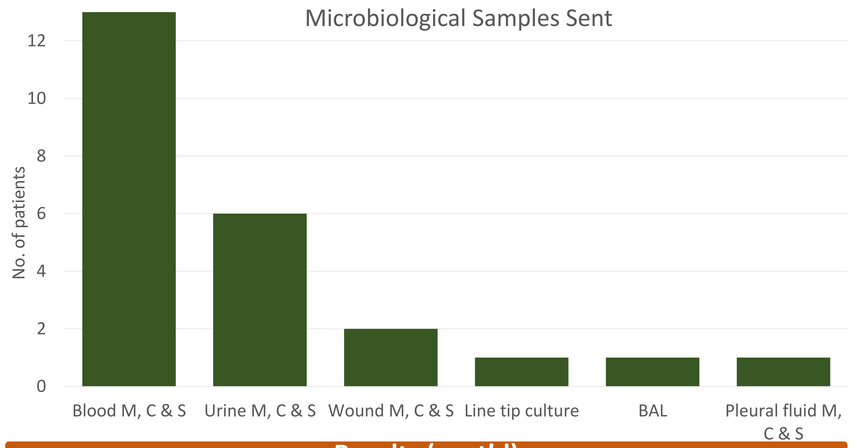


Figure 1 – VA in affected eye. No available data for 1 at presentation & 2 at follow-up (left eye LE; right eye RE; hand movements HM; counting fingers CF, (no) perception of light (N)PL, did not attend DNA)

Source identified?	Presumed source	Organism
Y	Perianal abscess	Not isolated
Y	Cellulitis (of leg and scalp)	Not isolated
Y	Infected foot ulcer (secondary to dog scratch in patient with diabetes mellitus)	*S. lugdunensis (scanty)*
Y	Intravenous drug usage	*C. albicans*
Y	L5/S1 discitis with associated epidural collection	*S. pneumoniae*
Y	Urinary tract infection (secondary to recent instrumentation)	*C. albicans*
N	N/A	N/A
Y	Central intravenous access device	*C. albicans*
Y	Prosthetic hip joint infection (leading to bacteraemia)	MSSA
N	N/A	N/A
N	N/A	N/A
N	N/A	N/A
N	TAVI (transient bacteraemia)	Not isolated

Table 2 – Source of infection. Causative organism identified in 46% (n=6) (Staphylococcus lugdunensis, Candida albicans, Streptococcus pneumoniae, Methicillin Susceptible Staphylococcus aureus)

Figure 2 – number and types of cultures sent (M,C&S – microbiology, cultures and sensitivities, bronchoalveolar lavage BAL)



Methods

- Audit permission was obtained - ref: 14181
- A retrospective case note review was completed using OpenEyes™ on all patients treated for EE between 2018-2022 at Guy's and St Thomas' NHS Foundation Trust
- Information was collected on patient demographics, risk factors, biochemical markers, medical investigations, echocardiography, aqueous/vitreous sampling for MC&S and PCR, detail on antibiotics, source of infection and visual outcomes
- Patients were excluded if there remained clinical uncertainty of diagnosis. Results were descriptively analysed

Results

- 23 patients were identified. 13 patients met our inclusion criteria.
- Average age was 60, majority of cases were in females 62% (n=8) and the left eye 77% (n=10)
- Average hospital admission was 11.2 days
- 77% (n=10) had either aqueous/vitreous M, C & S. 54% (n=7) had aqueous/vitreous PCR
- Visual outcomes were available on 11 patients: improved VA 45% (n=5), no change 18% (n=2) and deterioration 36% (n=4) (fig.1).
- Medical investigations included: microbiological samples (fig.2) and transthoracic echocardiography (TTE) 85% (n=10)

Results (cont'd)

- 27% (n=3) blood cultures were positive, 7.7% (n=1) urine culture grew C. albicans, 27% (n=3) other M,C & S were positive (Table 2)
- Radiological imaging was done for 92% (n=12), , including CXR (n=9), CT (KUB, head, AP), MRI (brain & orbits)
- Inflammatory markers were raised in 77% (n=10)
- Source of infection was identified in 62% (n=8) (Table 2)
- Of the 10 patients with TTE, 1 showed IE with subsequent aortic valve replacement; the others were reported as no IE (90%, n=9)
- 15% (n=2) patients had a vitrectomy
- 85% (n=11) had intravitreal antibiotics All patients were given systemic antibiotics: oral 54% (n=7), most commonly moxifloxacin 38% (n=5), intravenous 27% (n=3), both oral and IV 7.7% (n=1), unknown 7.7% (n=1)

Discussion

- Limitations include: small sample size; change in systems so older records not assessed; some investigations completed at different Trusts
- Significant heterogeneity exists in investigations done to establish source of disease
- Patients are often treated empirically; this has the potential for incomplete treatment and systemic reoccurrence
- Further work must be done to standardise care and differentiate management from its exogenous form