

Endocarditis in the 21st century: What, where and how?

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Introduction

Previously audits showed an incidence in HEY of 35-40 definite or possible endocarditis cases per year. We suspected that this number was now larger given current patient numbers. Since the last endocarditis audit national guidelines for endocarditis prophylaxis and guidelines for antimicrobial treatment have changed. National drivers on the diagnosis and treatment of sepsis as well as a push for limitation of the use of antibiotics have notably changed practice. In the light of these changes, the aim of this audit was to assess whether the incidence of endocarditis has changed, and whether patients have been treated in compliance with existing guidelines.

Methods

All patients with positive blood cultures between april 1st, 2016 and march 31st, 2017 with *Staphylococcus Aureus*, *Streptococci* and *Enterococci* were identified. Electronic letters were reviewed. Notes of patients without an alternative explanation were studied in more detail. Additionally, notes of patients known to have had endocarditis in HEYHT were reviewed; these could be patients from other trusts treated at our hospital, or patients with a different micro-organism not captured by the original search

Modified DUKE criteria for endocarditis were used to establish definite/possible endocarditis, or to reject the suspicion of endocarditis. We further collected data on micro-organism, endocarditis site, complications, discussion in endocarditis MDT, imaging, treatment, surgery, and mortality.

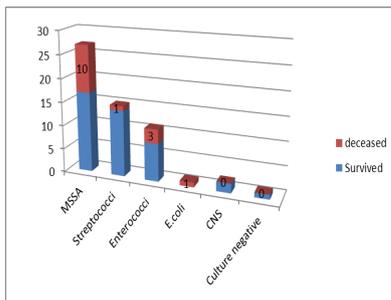
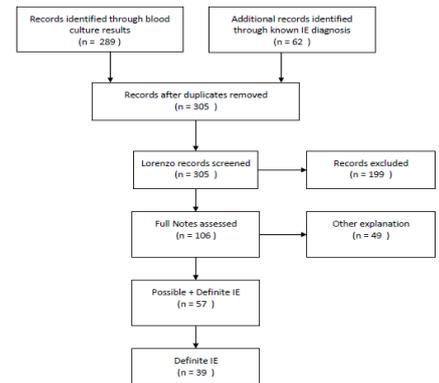


Figure 1: micro-organism

Results

A total of 57 cases of definite or possible endocarditis were identified; the majority was caused by MSSA. (fig 1) Of all patients with endocarditis, more than half had left-sided endocarditis. (fig 2)

Fourteen out of fifty-seven patients did not have an abnormality on echocardiogram or did not have an echocardiogram. Thirteen patients underwent a transoesophageal echocardiogram. Five (40%) had an altered diagnosis after transoesophageal echocardiogram. Five patients underwent cardiac CT, there were no patients who underwent cardiac MRI, and six underwent PET-CT. PET helped change the diagnosis in at least 1 patient;

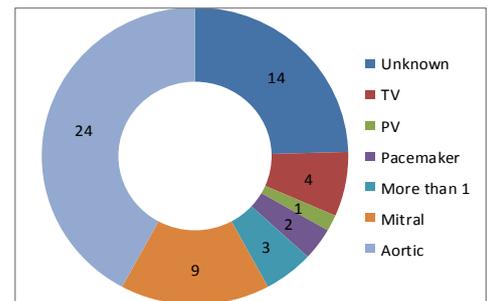


Figure 2 : endocarditis location

Root abscess	6	11%
septic emboli	7	12%
CVA	5	9%
other abscess	3	5%
Discitis	3	5%
Vegetation	20	35%

Table 1: complications

Antibiotic treatment was largely started according to international guidelines, but only in 24 out of 57 patients these guidelines were followed throughout the treatment course. Reasons for straying from these guidelines were kidney dysfunction, liver impairment, facilitation of outpatient treatment, and compliance. Complications of endocarditis were common and varied as shown in table 1. Sixteen patients needed surgery, the majority of those had streptococcal endocarditis. Fifteen patients were IV Drug users, of whom 12 had MSSA endocarditis. Four of 15 IV drug users with IE died (27%) ; overall 15 of 57 patients (26%) with IE died.

Conclusions

The frequency of IE seems increased indeed , though this may in part be due to a more rigorous audit methodology.

Despite change in dental prophylaxis, there is no rise in streptococcal IE, which is consistent with international data

Given the frequent need to change antibiotics and frequent complications, the multidisciplinary endocarditis team is pivotal in managing this patient group

The role of imaging modalities that are available needs to be further explored and clarified