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of infections and other pathologies they may experience. Even distant travel experiences may be relevant, and histoplasmosis should be borne in mind as it can remain latent in granulomas and recur years down the line. It is always worth reminding surgeons to send specimens for microbiological investigation. It is also worth persevering in the treatment of HIV of those who appear unable to comply - you never know what experiences might make them have a change of heart and behaviour!

AN AUDIT OF BLOOD CULTURE COLLECTION BY TRAINED PHLEBOTOMISTS IN A DISTRICT GENERAL HOSPITAL - BENEFITS AND UNINTENDED PITFALLS

CATEGORY: LESSON IN MICROBIOLOGY & INFECTION CONTROL

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Introduction

Optimal blood culture (BC) collection strategies to reduce contamination rates are a recognised target of all hospitals. In 2007 the Department of Health published a summary of best practice for taking blood cultures. Several authors have reported success in reducing blood culture contamination rates by the introduction of specialist phlebotomy or blood culture teams. Within our Trust, phlebotomists have been trained in blood culture collection, but this service is currently only available during routine twice-daily ward visits on weekdays. This audit is a preliminary analysis of blood cultures submitted by phlebotomy staff to clinically assess the impact of introducing this partial service. Full analysis of contamination rates of BCs taken by phlebotomists against a background BC contamination rate is on-going and will be presented in the final poster.

Aims: 1. To evaluate the contamination rate of blood cultures collected by phlebotomists 2. To assess the timeliness of blood cultures submitted relative to the clinical scenario

Methods: A retrospective case-note and laboratory data review of patients for whom blood cultures were collected by phlebotomy staff.

Phlebotomists recorded date and time of specimen collection following BC requests from the clinical team. Medical records were subsequently assessed to determine clinical need for BCs, antibiotic use and the time delay in collection post request. Final BC results were checked from the microbiology computer review system. All data was collated using a pre-prepared proforma.

Scientific findings

Results

Case-notes were reviewed for 42 BC requests spanning a time period June 2009 to April 2010. The median age of patients (24 males and 18 females) was 71 years (range 15-89 years). Three BCs grew significant pathogens (Coliform spp and Enterococcus sp) and there were no contaminants isolated from any BC sets submitted.

For 14 patients analysis of case-notes suggested an unacceptable delay in BC investigations, imposed by medical staff designating this task to the routine phlebotomy service. This delay ranged from 0-48 hours with a median delay of 6 hours.

Discussion

In agreement with previous authors this audit demonstrates the competence and effectiveness of phlebotomy staff in BC collection leading to low BC contamination rates.

However it highlighted unintended consequences by proving that this limited twice daily service is leading to inappropriate delays in submission of BCs in some cases. 14/42 (33%) of BC investigations were subject to a perceived clinical delay and 3 patients had intravenous antibiotics initiated before BCs were taken. Additionally, 6/14 patients had forms completed for BC collection for the morning phlebotomy round, subsequent to medical review during the night.

Conclusions

This study confirms that having dedicated trained personnel in BC collection results in low BC contamination rates.

However to be maximally clinically effective there needs to be an on-demand round-the-clock clinical team that could potentially incorporate other intravenous interventions.

It is essential to audit clinical pilot projects such as this to identify, not only the effectiveness, but also the clinical impact and any potential pitfalls that may inadvertently result. Medical staff have now been re-educated on the importance of submission of BCs as an urgent investigation and this will be subject to re-audit.

A VERY RARE PRESENTATION OF MILIARY TUBERCULOSIS IN MID-TRIMESTER PREGNANCY MASQUERADING AS SEPSIS AND SEVERE ACUTE RESPIRATORY SYNDROMECATEGORY: CLINICAL LESSON

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**Introduction**

We report a rare presentation of miliary tuberculosis (TB) in an HIV-negative pregnant Bangladeshi woman masquerading as acute sepsis with rapid progression to respiratory failure and acute respiratory distress syndrome (ARDS) and subsequent acute renal failure (ARF). The absence of any typical systemic prodromal symptoms, the short duration of illness and initially normal chest x-ray (CXR) with rapidly evolving radiological changes made ascertainment of the diagnosis of TB infection difficult. Aggressive investigation including liver and bone marrow biopsy lead to diagnostic confirmation, appropriate therapy, and, despite foetal loss at 22 weeks gestation, to a successful outcome.

Miliary TB is a rare cause of ARDS and is associated with a mortality rate higher than ARDS from other causes. Although it is suggested changes in cell-mediated immunity during pregnancy may increase susceptibility to infections including TB, recent studies have not confirmed an association between pregnancy and the risk of developing active TB. The incidence of TB in the UK is significantly increased in immigrants, particularly from the Indian subcontinent - in a prospective study of patients diagnosed with TB during pregnancy in London all were recent immigrants to the UK. Diagnosis of TB in pregnancy is often delayed as extrapulmonary disease is common, symptoms can be non-specific, cough usually absent, and there is a tendency to defer radiological investigation. TB should be suspected in pregnancy in UK immigrants, even when the presentation is atypical.

**Scientific findings**

A 19 week pregnant Bangladeshi woman presented with 5 days of fever, non-productive cough and breathlessness. Initial CXR was unremarkable; however she deteriorated dramatically with sepsis, ARDS and ARF, requiring ventilation and renal support. Investigations including routine culture, serology and PCR for typical and atypical pathogens, vasculitis screen and serum ACE were negative. Multiple respiratory, including bronchoalveolar-lavage, and EMU urine samples were smear and culture negative for TB. Renal biopsy suggested hypoxia-related ATN with scarce non-specific granulomata. Liver biopsy revealed numerous caseating granulomata and acid-fast bacilli, with culture confirmation of TB from bone-marrow. Foetal loss occurred at 22 weeks gestation.

**Discussion**

The very short history, lack of typical prodromal symptoms, and initial unremarkable CXR with rapid onset of ARDS masking typical miliary TB radiological changes made diagnostic ascertainment of TB infection difficult. Positive quantiferon gold test was consistent with previous exposure to TB in a high prevalence country. Though renal biopsy showed patchy granulomatous inflammation, the decline in renal function was too abrupt to be explained solely by renal TB. A CT scan confirming hepatomegaly followed by a liver biopsy, with liver function tests only moderately abnormal, ultimately led to the histological diagnosis, with microbiological confirmation from bone marrow.

**Conclusions**

In contrast to one previous case reporting prolonged constitutional symptoms, we report a rare case of miliary TB in a pregnant woman masquerading as sepsis with rapidly progressive respiratory failure, ARDS and ARF. Although there is no evidence confirming TB to be more common in pregnancy, presentation can be non-specific, atypical and progression rapid. Sputum smears tend to be negative and, particularly in recent UK immigrants, attempts to obtain tissue for histological and microbiological analysis should be considered early to minimise diagnostic delay and improve outcome in a disease with high mortality. ARDS ventilation strategies including oscillation ventilation were crucial.

**AN INVESTIGATION INTO JUNIOR DOCTORS’ KNOWLEDGE IN RELATION TO ANTIBIOTIC USAGECATEGORY: CLINICAL LESSON**

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**Introduction**

This study was a small-sample pilot looking at baseline knowledge amongst doctors within our teaching hospital with the intention to inform future teaching, particularly to Foundation Years 1 and 2. It is hoped that this approach can be applied more widely in future as part of a feedback mechanism for the education programme. It could also be adapted for similar purposes in other staff groups and may also contribute to ensuring progression through competency-based training or the NHS KSF process.

Although attempts to achieve consensus regarding core competencies have not yet been successful either locally or nationally, we assessed against what were considered to be fundamental points relating to the use of specific antibiotics and general management of infection. Development of questions and scenarios was undertaken with the collaboration of several doctors from the target F1/F2 cohort and used as reference points our local prescribing