Communicable Diseases

Chairpersons: RC Landis, M Litchveld

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The distribution of respiratory viruses among severe cases of respiratory illness and their association with severe acute respiratory illnesses related deaths in Barbados

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Objective: To examine the distribution of respiratory viruses among severe cases of respiratory illness and their association with severe acute respiratory illnesses (SARI) related deaths.
Design and Methods: Laboratory analysis (immunofluorescence and/or real-time reverse transcription-polymerase chain reaction (RT-PCR)) for influenza A, B, parainfluenza viruses, adenovirus and respiratory syncytial virus was conducted on 333 nasopharyngeal specimens received from January to September (EW 1−40) 2013. Test results, admissions data and records of death were collated and analysed. Demographical data and quality indicators were also included in the analysis.
Results: Twenty-three per cent (75) of specimens received were SARI cases. Thirty per cent (75) of total SARI hospital admissions (252) had specimens collected. Overall, analysis revealed that greater than half of the total number of SARI specimens was collected from < 15-year age category (68%) with 49% positivity. Rhinovirus (41%), parainfluenza (19%) and human metapneumovirus [hMPV] (14%) were the predominant viruses isolated. Rhinovirus was found to be the virus most frequently isolated in the 1−4-year and 5−14-year age categories. Influenza A H3N2 was detected in 3% (1) of cases while influenza A H1N1 was detected in 5% (2). Specimen quality assessment showed that greater than half (65%) were collected within seven days of onset of illness. There were 25% (5) SARI related deaths where specimens had been collected. Severe acute respiratory illnesses related deaths represented 8% (20) of total SARI hospital admissions.
Conclusion: An increase in SARI specimen collection is required for a greater understanding of the respiratory viruses responsible for severe illness and to determine the association between those respiratory viruses and SARI related deaths.

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Prevalence and aetiological agents of urinary tract infections in long-term care facilities in Georgetown, Guyana

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Objective: To assess the prevalence and aetiological agents of urinary tract infections (UTIs) in persons over 50 years residing in long-term care facilities (LTCFs) in Georgetown.
Design and Methods: A cross-sectional study including 137 adults ≥ 50 years in long-term care facilities in Georgetown was conducted. Factors analysed included whether infections were symptomatic or asymptomatic as well as possible risk factors: gender, duration of catheterization, underlying co-morbidity, previous UTI diagnosis, and prior antibiotic treatment.
Results: During the three-month period, 137 patients were sampled with a total number of 80 organisms isolated. The overall prevalence of UTIs was 51.8% with that of females (58.6%) being greater than that of males (43.5%). Multivariate logistic regression showed that stroke (odds ratio [OR] 2.99; 95% confidence interval [CI] 1.19, 7.54; p = 0.02) and participant's gender (OR 2.05; 95% CI 1.10, 3.81; p = 0.02) were independent predictors for UTI. The most frequently isolated pathogens were *Staphylococcus aureus* and *Enterobacter* sp (22.5% each), followed by *Escherichia coli* (18.8%).
Conclusion: Urinary tract infection is of important clinical significance in LTCFs. Understanding the nature of the infection process, including the organisms involved, is essential for clinicians to determine the "best practices" to ensure proper patient care.

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***Acinetobacter sp*: Emerging as an increasing threat at a tertiary care hospital in Guyana**

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Objective: To investigate the prevalence of multidrug resistant (MDR) *Acinetobacter sp* and its resistance patterns among inpatients at the Georgetown Public Hospital Corporation, the main tertiary care hospital in Guyana.
Design and Methods: A retrospective, descriptive study was carried out by scrutinizing data from specimen culture reports, in the Microbiology Department, for inpatients from January 2008 to December 2011. Data were collected on the antimicrobial susceptibility testing results. Gentamicin (10 µg), ciprofloxacin (5 µg), ceftriaxone (30 µg), piperacillin (100 µg) and ceftazidime (30 µg) were the first line antibiotics used and septrin (1.25/23.75 µg), cefotaxime (30 µg), amikacin (30 µg) and imipenem (10 µg) were the second line drugs tested. The number of isolates from each ward and the specimen type were also documented.
Results: Out of 199 isolates, resistance to cefotaxime (94%) and ceftriaxone (88%) were the most common and resistance to imipenem (18%) was the least. Resistance to three or more antibiotic classes or MDR was seen in 140 (70%) isolates and 19 (10%) isolates were resistant to all nine antibiotics. The most predominant phenotype was concurrent resistance to ciprofloxacin, ceftriaxone and piperacillin which was found in 60% of the isolates. Of note, most of the MDR isolates were found in patients from the surgical wards (47%) and wound swabs yielded the majority (60%) of MDR isolates.
Conclusions: There is an urgent need for stricter infection control measures to be implemented and maintained and surveillance mechanisms to be introduced. Also, risk factors, especially in the surgical wards and wound swabs should be investigated.

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An investigation into the carriage of methicillin-resistant Staphylococci on fomites at The University of the West Indies, Cave Hill Campus

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Objective: To determine the rate of carriage of methicillin-resistant *Staphylococcus aureus* (MRSA) on fomites on a University campus and to investigate the susceptibility of isolates to a panel of antibiotics frequently used to treat infections with *Staphylococcus aureus* (*S aureus*) and MRSA.
Design and Methods: Samples were collected from 140 frequently touched surfaces in different areas of the University campus, enriched and subcultured onto mannitol salt agar containing oxacillin. Confirmed *Staphylococcus* isolates were screened for methicillin-resistance by cefoxitin disc diffusion assay and using the MRSA-Screen latex agglutination test. The susceptibility of isolates to a panel of 13 antibiotics was determined by disc diffusion assay according to Clinical and Laboratory Standards Institute (CLSI) guidelines.
Results: There was a 32.9% isolation frequency of coagulase-negative Staphylococci from surfaces, with 52% exhibiting methicillin-resistance. *Staphylococcus aureus* was not isolated. Few isolates were resistant to doxycycline, trimethoprim-sulfamethoxazole and tetracycline. Resistance to erythromycin was more frequent (31.9%) and inducible clindamycin resistance was observed in 8.7% of isolates.
Conclusions: *Staphylococcus aureus* was not recovered from fomites on the University campus; however, coagulase-negative Staphylococci, including methicillin-resistant strains, were frequently isolated. The presence of these isolates is significant as they are potential opportunistic pathogens and harbour resistance genes that can be transferred horizontally to the more pathogenic *S aureus* strains.