

### A hunt for *Candida auris* in Abha, the asir province of Saudi Arabia

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**Background and Purpose:** *Candida auris* is an emerging global disease that has been the cause of several outbreaks in health-care facilities over the past decade. However, cases have yet to be reported from the Kingdom of Saudi Arabia. The main aim of this study was to detect any case of *Candida auris* among the intensive care patients, in - patients and out-patients from the three main tertiary care hospitals in the Asir region Abha, Saudi Arabia.

**Methods:** This prospective study was carried out over a period of six months. Blood samples, urine samples and samples from other sites were obtained from patients in intensive care units, medical wards, surgical wards and out-patient departments. Initial Identification was using the VITEK 2 (Biomérieux). As per the CDC recommendations, organisms like *Candida haemulonii*, *Candida catenulata*, *Candida famata*, *Candida guilliermondii* and *Candida lusitanae* were presumed to be *Candida auris*. Then further accurate identification was to be carried out using Bruker Biotyper matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) devices and VITEK -MS.

**Results:** Out of a total of 150 samples, only 79 samples (52.6%) were positive for *Candida* species. *Candida* species were more commonly isolated from the ICU/PICU/NICU and CCU (49.36%). They were more commonly isolated from other samples in the ICU as compared to blood samples. (Chi-square statistic 5.5279, p-value 0.018715, p<0.05, this is significant). Most common species that was isolated was *C. albicans* (51.2%), *C. tropicalis* (24.4%), *C. glabrata* (8.4%), *C. dubliniensis* (4.9%), *C. kefyr*, *C.parapsilosis*, and *C.utilis* (1.2%).

**Conclusion:** In our study using the VITEK 2, none of the organisms that could have been *Candida auris* were identified. It can be assumed that *Candida auris* are yet to be isolated in this part of Saudi Arabia. There is a need for the awareness of *Candida auris* among the clinicians for early identification and treatment. Hunt is on.

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### Emergence of rotavirus G2P [9] genotype, prevalence of rotavirus infection and adverse effects of vaccination among the post vaccinated children below five years in the Asir region of Saudi Arabia

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**Background and Purpose:** Rota virus vaccination was introduced into the National Immunization schedule of Saudi Arabia in 2013. The prevalence of Group A rotavirus before the introduction of Rotarix vaccine (RV1) was between 12%–46% respectively, however the current prevalence rate has fallen to 6.8%. The purpose of our study is to explore the prevalence of RV infection, investigate the predominant genotypes of RV in this part of Saudi Arabia and evaluate the adverse effects of the Rotarix vaccine (RV1) and the clinical presentation of gastroenteritis as per the Modified Vesikari Score (MVS).

**Methods:** Stool samples were collected from all the patients below the age group of 5 years with complaints of gastroenteritis during the study period of nine months (August 2017–April 2018). A questionnaire was used to record the clinical symptoms by using the MVS method, history of the rotavirus vaccination, side effects of immunization was also documented from the parents of the children after obtaining informed consent. The stools samples were processed, and the Rotavirus antigen rapid test was to detect the rotavirus antigens in stool. Viral genomic RNA was extracted, and RT-PCR was done.

**Results:** The prevalence of rotavirus infection was 8.9%. G2P [4] and G2P [9] a new genotype strain in the Asir region of Saudi Arabia were the prevalent strains among the RV positive cases. The significant side effects of RV vaccination immediately following either of the two doses of immunization was continuous diarrhea, vomiting, and fever. Factors like male gender or rural location did not play any statistically significant role in the development of RV infections.

**Conclusion:** The emergence of G2P [9] is a novelty in this part of Saudi Arabia. Further studies on G2P [9] RV strains and other rare strains in this part of the world will be beneficial at the National and the International level.

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### Pattern and Risk Factors of Sharp Object Injuries among Health Care Workers

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**Background and Purpose:** To assess pattern and risk factors of sharp object injuries in King Abdullah Medical City.

**Methodology:** Retrospective review of registry records from infection control documentation sheet that was used to collect data including all employees exposed to sharp object injuries during 2017.

**Results and Discussions:** A total of 48 employees were exposed to sharp object injuries during 2017.



From total number 48, 22 Nurse were affected (46%) And 12 doctors (25%), 6 student (13%) then 16% collectively representing Technician, House keepers and PCT.

Most injuries occurred in Intensive Care Unit 8 (16.6%) followed by Operation Room 7 (14.5%) then Oncology Department 5 (10.4%) and Specialized surgical ward 4 (8.3%).

According to type of exposure high exposure due to syringe needle prick (29) 65.9% then suture and central line needle (6) 13.6%.

Regarding circumstances of injury, most commonly after procedure (29) 65.9% then during procedure (14) 31.8%.

By analyzing the data of how incident occurred it was found that 22.7% after giving medication, 18% during incision suture and central line insertion, 13.6% during cannula insertion and after Foleys catheter insertion.

**Conclusions:** we have points of improvements regarding the incidence of sharp needle injuries during 2017. Nurses were more exposed than Doctors, student, technician and Housekeeper, Intensive care unit was the most affected area followed by Operation room. Syringe needle was the most device causing injuries. Sharp injuries after procedure were the most circumstances during which exposures occurred followed by during procedure from this point we started more condensed orientation programs targeting the defecting parts.

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### Contamination of Patients' Bedside Tables at Saudi Tertiary Care Center



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**Background:** Nosocomial infections are infections that are acquired during patients' hospitalizations which were not present at admission. Surfaces have a higher prevalence of contamination include daily-use equipment and items such as faucet handles, and poles supporting intravenous fluid supplies. In this study, we aimed to determine the bacterial contamination of patients' bedside tables at King Abdulaziz Medical City KAMC.

**Methods:** a cross-sectional study was conducted by collecting samples from the patients' bedside tables at KAMC. Swabs were taken in a standardized way from the allocated tables by randomization. Then, the samples were sent to the lab for culture, carrying a serial number to be associated with the data collecting sheet.

**Results:** Of the 225 patients' bedside samples, 203 (90.22%) showed bacterial growth. Different variables were examined. Most of the isolated bacteria were gram-positive 97.72%. While gram-negative was 1.66%, and fungi 0.62%. The most common organism was Staphylococcus coagulase negative, which was isolated by 67.5%, followed by Corynebacterium species by 49.1%. However, the least organism is Ochrobactrum anthropi, Proteus species, and Rhizobium radiobacter, each is found by 0.4%.

Most of the positive samples were taken from Medical wards, followed by Surgical and Ob/Gyne wards. Medical wards also carried most of the gram-negative organisms isolated in our study.

**Conclusion:** Even though the majority of the patient's bedside tables were contaminated mostly with environmental bacteria, fungus and gram-negative bacteria were rarely detected. Contaminated bedside tables could be a source of transmission of infection.

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### How Well Are We Doing in the Treatment of Catheter-Related Blood Stream Infections in Patients on Hemodialysis: An Antimicrobial Stewardship Approach



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**Background and Purpose:** In an effort to implement antimicrobial stewardship program at our dialysis center, a new protocol was developed for catheter-related bacteremia (CRBSI) in patients on hemodialysis (HD) consistent with international guidelines recommendation (1). The aim of the protocol was to guide selection and dosing of empirical therapy considering the local hospital susceptibility patterns. Educational session was provided to the nephrology team prior to implementation. The purpose of the current study was to assess adherence to the protocol in patients undergoing HD.

**Methods:** Adult patients on HD who received vancomycin (vanc) were included. Data were collected prospectively via reviewing patient's data files. Information on antimicrobial therapy, patient's demographics, and biochemical data were collected during the first 3 months following implementation.

**Results:** A total of 27 patients' data were collected with a median age of 59 year old (20–77) and dry weight of 70 kg (66–154). Blood cultures were collected in 70% of the patients; and was positive in 58%. Of the positive cultures, 64% were consistent with gram positive pathogens, of which 27% were Staphylococcus spp and all were susceptible to oxacillin. Selection of antimicrobial therapy was as per protocol in 54%. The median vanc loading dose was 15 mg/kg (6.49–29) with 11% adherence to the dosing guideline.

**Conclusion:** Adherence to the selected empirical therapy was suboptimal; adherence to the vanc dosage protocol was poor in patients undergoing intermittent HD. Results of the present study underscore the need for ongoing feedback sessions to improve prescriber selection and dosing. In addition, our results surprisingly showed low MRSA rates in this high risk group. This finding highlights the need to re-evaluate the prevalence of pathogens at each local institute in an attempt to adhere to antibiotic stewardship practice, particularly in selecting appropriate empirical treatment regimen for CRBSI in this population.

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