

abscess has been a complication in 50% of these patients which required surgical drainage.

Brucellosis spondylodiscitis affected lumbosacral spondylodiscitis.

E.Coli ESBL has been associated with lumbosacral spondylodiscitis in all cases. Patient were treated with no complications.

Quambalaria Cyanescens affected lumbosacral vertebrae in this case.

**Conclusion** M. tuberculosis is found to be the major cause of infectious spondylodiscitis in this study. This came corresponding with the high incidence of T.B in Saudi Arabia as it is estimated as 46 per 100,000 and annual risk of 0.35%. However, this study came contradicting the most common cause worldwide, which is pyogenic. St. aureus.

However, in this study it was found that Quambalaria Cyanescens was the isolated. It is a very rare human pathogen member of the basidiomycete.

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PP122

### Antimicrobials for treating Clostridium difficile infections



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**Background and purpose** Vancomycin, metronidazole, fidaxomicin, teicoplanin, fusidic acid and bacitracin have been recommended for the treatment of Clostridium difficile infections (CDI). We conducted a Bayesian network meta-analysis comparing all the antimicrobial agents used in CDI.

**Methodology** Electronic databases were searched for randomized controlled trials comparing antimicrobial agents used for CDI. Risk of bias was assessed. Random effects model was used to derive the mixed treatment comparison estimates. Odds ratio with 95% confidence intervals was used as effect estimate.

**Results and discussion** Seventeen studies were included in this meta-analysis. Teicoplanin was observed to perform better than vancomycin {5.25 [1.82, 18.1]}, metronidazole {7.2 [2.5, 23.8]} and fusidic acid {5.7 [1.93, 19.3]}. Teicoplanin was also associated with higher rates of bacteriological cure than vancomycin and metronidazole. Fidaxomicin is associated with significantly higher rates of symptomatic cure than vancomycin, bacitracin and metronidazole and is similar to teicoplanin.

**Conclusion** To conclude, teicoplanin and fidaxomicin have been observed to perform better than other antimicrobials for the treatment of CDI. We recommend conducting high quality randomized controlled clinical trials evaluating teicoplanin and fidaxomicin with other standard interventions for the management of CDI.

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PP123

### Surgical Site Infections Over a Decade in a Tertiary Hospital



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**Background:** Surgical site infections (SSI) are, collectively, a leading cause of healthcare-associated infections. Due to the subsequent prolonged hospitalization, these infections can result in higher risk of complications and increased financial burden for patients and healthcare facilities.

**Objectives:** Since nosocomial infection rate is considered one of the best indicators for quality of care, we conducted this study to analyze the rate and causative microorganisms of surgical site infections at King Fahd Hospital of the University (KFHU) over the past decade.

**Methodology:** This retrospective study of the period between August 2008 and August 2018 included patients with culture-proven postoperative infection according to CDC definition and classification of SSIs. Data was collected from the hospital's medical records system and archived paper files, and analyzed using SPSS software.

**Results:** 289 cases were identified as SSI. The rate in KFHU decreased from 1.19% in 2008 to 0.35% in 2018, reaching its lowest rate on 0.17% in 2015, when the hospital was granted its first JCI accreditation. Escherichia coli was found to be the commonest pathogen (isolated from 18.4% of samples), followed by Pseudomonas aeruginosa (16.3%), Klebsiella pneumoniae (9.6%), Acinetobacter baumannii (9.4%), Staphylococcus epidermidis (8.4%), and others. Antibiotic susceptibility patterns has changed for many species, particularly A.baumannii, which became resistant to most of antibiotics over the 10 years. Our results also showed SSIs were more common after clean, clean-contaminated procedures.

**Conclusion:** The study included a total of 289 cases of culture-proven SSI, and 364 specimens that isolated 472 organisms. The rate of SSI in KFHU decreased from 1.19% in 2008 to 0.35% in 2018, reaching its lowest rate on 0.17% in 2015. From all samples, E.coli was the most frequently isolated microbe. To the best of our knowledge, this is the first study to describe and reflect the status of SSI over a decade in Saudi Arabia.

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PP124

### An Emerging Clone (ST2096) of Klebsiella pneumoniae Clonal Complex 14 With Enhanced Virulence Causes an Outbreak in Saudi Arabia



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**a. Background and Purpose** Nosocomial infections caused by multidrug-resistant (MDR) Klebsiella pneumoniae strains represent a growing threat that needs to be addressed urgently. The principal pathogenic reservoirs for transmission of Klebsiella are the gastrointestinal tract and healthcare workers' hands where the organism can spread rapidly leading often to a nosocomial

outbreak. Therefore, the identification and management of such infections are indispensable. Whole-genome sequencing (WGS) could serve as an efficient tool allowing to track resistant, virulence factors as well as identify the phylogenetic pattern. Here, we aimed to apply such a method to understand the reason behind the spread of *K. pneumoniae* in hospital.

**b. Methodology** We collected a 235 MDR *Klebsiella pneumoniae* isolates from a tertiary hospital in Saudi Arabia between 2014–2018. We investigated the antibiotic resistance profile, pathogenic potential and the clonal relationships between *K. pneumoniae* isolates. WGS multilocus sequence typing (MLST) and molecular assay were used.

**c. Results and Discussions** A large portion of the isolates was defined as highly virulent and resistant strains with the dominant sequence type of ST2096 of the clonal complex 14 followed by the high-risk clone ST14 of the same clonal group. Analyzing the dissemination and transmission patterns of *K. pneumoniae* revealed an outbreak of ST2096 starting in Dec 2016 for two years. Through the results of the transmission map, we identified the original case, the location and the spreaders of the strain. We discovered an unreported pattern of resistant including carbapenemases and colistin-resistant genes, which resulted in over 60% of mortality rate.

**d. Conclusion** Combining WGS and epidemiological data allowed us to identify an outbreak of highly virulent and resistant ST2096 within the ICU and long-term care wards. Transmission suggested the involvement of environmental and hospital staff colonization. Further investigation and samples analysis is needed to improve infection control procedures.

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#### PP125

### Knowledge and Attitudes of Parents towards Head Lice Infestation in Riyadh



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**Background:** Head lice infestation is a parasitic skin infection that is commonly prevalent globally, especially in areas with poor economic status. This parasite lives in both human and animals body. This parasite feeds on the blood of host and it transmit among different individuals by using of claws of the leg.

**Aim:** To investigate the knowledge and attitudes of parents towards head lice in Riyadh.

**Method:** This is a cross sectional study which was conducted on mothers of school girls in schools in Riyadh, Saudi Arabia. The study was performed using self administrated questionnaire which was distributed among participants.

**Results:** The prevalence of head lice among children of participants was 56.5%. Appearance of lice in head was the most common mark to know about infestation 52.2%, the large majority 96.6% treated the affected child. Level of knowledge was significantly affected by age (P-value=0.023), being infested with head lice (P-value=0.000) and source of awareness about head lice (P-

value=0.001), whereas attitude significantly affected by monthly income (P-value=0.036).

**Conclusion:** There was a high prevalence of head lice among girl students in Riyadh with moderate practice among mothers, knowledge was significantly influenced by age, infestation with lice and source of awareness about head lice, whereas attitude significantly influenced by monthly income.

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#### PP126

### A new PCR-based species typing approach in Entamoeba



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The most commonly used approach for *Entamoeba* species typing up to date is the tRNA-linked STR regions of the parasite's genome. In the present study, a new reliable, fast and easy molecular tool for species typing was developed. DNA was isolated from fecal samples collected from infected subjects in Saudi Arabia. Two types of primer sets were compared in which the first targeted tRNA-linked STR regions, while the second was designed after multiple contig alignment of the two genomes using NUCmer program in aligned areas with high similarity (~90%) and difference between of ~90 bp. The selection criteria secures that designed primers should pair with both EH and ED contig sequences at homologous regions of 200–500 bp of both species except for the presence of indels that result in therecovery of amplicons of two species with different sizes. Banding patterns in the tRNA-linked STR region resulted in the occurrence of several common amplicons. We speculate that primers mismatch with regions other than the specified STR arrays of *Entamoeba* or with organisms other than *Entamoeba* existed in the fecal sample. However, the STR-based approach looked very useful in studying strain typing and parasite diversity. The results for the new approach complemented those of the STR-based approach, except that the latter failed to detect coinfecting subjects. The new approach proved to be useful at the species level, while the tRNA-linked STR approach can still be a good choice for strain typing.

**Keywords:** Species typing, strain typing, STR, amplicon, NUCmer, contig.

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#### PP127

### Correlation between neutropenia and pneumonias among children with Visceral Leishmaniasis in “NORK” ICH, Armenia



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**Background and Purpose:** The disease complex, leishmaniasis, is a neglected tropical vector-borne disease caused by obligate intracellular protozoan of the genus *Leishmania*. VL is the most severe form of leishmaniasis. *Leishmania infantum* is the causative organism of VL in Armenia. VL is fatal, if left untreated and is characterized by prolonged fever, hepatomegaly, splenomegaly, pancytopenia, progressive anemia and weight loss.