PIN12

HOSPITALIZATIONS RELATED TO RESPIRATORY VIRAL INFECTIONS DURING THE 2017/18 SEASON IN THE VALENCIA REGION OF SPAIN

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OBJECTIVES: To describe the impact and severity of hospitalizations related to respiratory viral infections using data from weeks 2017-37 to 2018-19 in the Valencia Region of Spain. **METHODS:** All consenting admitted patients were included in the study if they were non-institutionalized, residents in any of the participating hospitals' catchment areas, not discharged from a previous hospital admission within 30 days, had an influenza-like illness (ILI, only for patients ≥5 years old) and were hospitalized within 7 days of the onset of symptoms. Demographic and clinical information was collected by interviewing and/or from clinical records. Swabs were tested by real-time reverse transcription polymerase chain reaction (RT-PCR) for influenza, respiratory syncytial virus (RSV), metapneumovirus, parainfluenza, rhinovirus/enterovirus, adenovirus, coronavirus and bocavirus. Hospitalization incidence rates were calculated by virus and age. Severity was explored through Intensive Care Unit (ICU) admission, death in hospital, mechanical ventilation, extracorporeal membrane oxygenation and the length of hospitalization. **RESULTS:** The hospitalization incidence rates related to respiratory viral infections were 1062.89, 31.38, 36.12 and 434.64 per 100,000 in patients <5, 5 to <18, 18 to <65 and ≥65 years old (y.o.), respectively. The incidence rates were especially high in children <1 y.o. and in adults ≥85 y.o.: 3311.94 and 1044.77 per 100,000, respectively. The highest rates were detected for influenza, rhinovirus/enterovirus and RSV: 63.11, 40.20 and 25.81 per 100,000, respectively. Among infected patients, 2% were admitted to the ICU, 4% needed mechanical ventilation and 4% died in hospital. No differences in severity were detected among viruses. The median length of hospitalization among infected patients was 5 days (Interquartile Range, IQR: 3-8 days). **CONCLUSIONS:** Respiratory viral infections affected mainly young children and elderly people. Influenza, rhinovirus/enterovirus and RSV were the most commonly detected infections. No differences in severity were detected between the assessed viruses.

PIN13

THE INCIDENCE OF SURGICAL SITE INFECTION IN POLAND

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OBJECTIVES: World Health Organization data shows surgical site infection (SSI) is the second most frequent type of healthcare-associated infection in Europe. Thus, it concerns a major clinical but also an economical problem due to the prolonged hospital stay and antibiotic treatment. Our aim was to review most current incidence data on SSI in Polish hospitals. **METHODS:** Medline, Polish Medical Bibliography (PBL) and Google Scholar were searched for studies that describe the incidence of SSI in Polish Hospitals. Epidemiological data were categorized into 7 categories based on a type of surgery department i.e.: general surgery, cardiovascular, neurosurgery, urology, laryngology, orthopedics and gynecology. **RESULTS:** We have identified 9 original publication that describes the incidence of SSI in Polish surgery wards. The incidence of SSI differs between the type of surgery ward and type of surgery. In general surgery, the highest rate of SSI was noted in abdominal cavity surgery, especially in oncology surgery where SSI occurred in 12,54% of colorectal cancer surgery. Surprisingly, SSI incidence was low in thoracic surgery (1,3%). In vascular surgery incidence rate varied from 1,3% to 5,6% and in the head and neck thyroid gland surgery had SSI incidence rate more than 3-fold higher than for craniotomy (8,7% vs 2,4%). The incidence of SSI was reported at a very similar level in all identified sources (2,4%-3,3%). In contrary, SSI incidence reported in orthopedic ward differ a lot being low for musculoskeletal intervention and bone fractures (1,2%-1,3%) and relatively high for endoprosthesis implantation (up to 7,5%). In the gynecological ward, SSI incidence was very similar to those observed for abdominal surgery i.e. 3,7%-4,7% for cesarean section and 5,4% for other abdominal cavity surgery. SSI due to maternity intervention was rare (0,8%). **CONCLUSIONS:** Our review showed that incidence of SSI in Poland is high but still comparable to SSI rate in other European countries.

PIN14

BIOMEDICAL AND THERAPEUTIC PREDICTORS OF SURVIVAL TIME AND MORTALITY OF ADULT HIV/TB CO-INFECTIONS; A RETROSPECTIVE COHORT STUDY

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OBJECTIVES: Comprehensive assessment of biomedical and therapeutic predictors of survival time (ST) and mortality of TB/HIV co-infected patients. **METHODS:** A retrospective cohort study design was used to review data of 364 confirmed TB/HIV patients from standard ART and TB registry, Ministry of Defense Teaching Hospital, Ethiopia. Patient mean age was 36.7 years. These TB/ HIV cases, other co-morbidities ruled out, were treated between 2014 –2016. For the survival analysis, the outcome of interest was 'treatment failure' or 'death'. A univariate descriptive statistical analysis was performed using a non- parametric procedure, Kaplan -Meier (KM) method to estimate overall survival (OS) time, while Cox proportional hazard model was used in multivariate Cox regression analysis to determine a possible association of predictor variables and to obtain adjusted hazard ratios. P-value was set at, 0.05, log likelihood ratio test at 0.10. Data were analyzed using SPSS version 18.0. **RESULTS:** There was no significant difference in the survival curves of male and female patients (Log rank statistic =0.005, d f=1, p=0.945) and among different age group (Log rank statistic =28.622, d f=40, p=0.910). The mean overall survival (OS) time was 24.8 months (95%CI: 18–31). The mean ST for women was 29.8 months (95%CI: 76.6–694) while for men was 17.9 months (95%CI: 13.5–22.2). Survival time varies by CD4 cell count, WHO clinical stage; functional status, TB Rx regimen, TB Rx Phase and type of HAART and multivariate Cox regression showed that these factors were also important predictors of mortality. **CONCLUSIONS:** Biomedical and therapeutic monitoring of HIV/TB co-infected patients with low CD4 cell count, advanced WHO stages III & IV, ambulatory and bedridden functional status, diagnosed TB site, TB treatment Phase and HAART regimen is necessary to improve survival and reduce the risk of death of patients at initiation, during anti-TB treatment and ART follow up period.

INFECTION - Cost Studies

PIN16

BUDGET IMPACT ANALYSIS OF INTRODUCING A READY-TO-USE, FULLY-LIQUID, PAEDIATRIC, HEXAVALENT VACCINE FOR CHILDHOOD IMMUNISATION IN THE UNITED KINGDOM

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OBJECTIVES: Ready-to-use, fully-liquid vaccines facilitate clinical practice by shortening vaccination time and reducing vaccination error risks compared to vaccines that require reconstitution. The aim of this study was to determine the budgetary impact of introducing a ready-to-use, fully-liquid hexavalent vaccine (HVFL) in a pre-filled syringe into the UK's paediatric immunisation programme, where three doses are given to children <1 year of age. **METHODS:** An Excel-based budget impact model was developed to evaluate this study's aim over a 10-year time horizon. The target population was all UK birth cohorts during that period. Total direct costs from the payer's perspective consisted of four main categories: vaccine acquisition and management costs, healthcare provider's service provision costs, needle-stick injury (NSI) costs, and non-NSI vaccination error costs. The net budget impact was calculated by comparing the direct costs in current versus future market share scenarios. Input parameter uncertainty was explored through scenario and sensitivity analysis. **RESULTS:** The direct paediatric immunisation programme costs, with solely the hexavalent vaccine requiring reconstitution (HVRR), was estimated at £42 million per year over a 10-year time horizon. The payer's direct costs decreased with £527,929 (1.26%) per year when market shares were equally divided between the HVRR and HVFL. Market share of 100% for the HVFL compared to 0% for HVRR decreased the payer's costs by £1.66 million (3.95%) per year. Assuming no major efficacy differences between the HVFL and HVRR, the cost-difference was affected most by vaccine administration with corresponding vaccine preparation and vaccine acquisition and management costs. Highest contributing factor to vaccine acquisition and management cost difference was needle disposal costs. **CONCLUSIONS:** The results suggest that the introduction of a ready-to-use, fully-liquid hexavalent vaccine in the UK's childhood immunisation programme can generate cost savings.

PIN17

BUDGET IMPACT ANALYSIS OF LIPOSOMAL AMPHOTERICIN B VERSUS AMPHOTERICIN B LIPID COMPLEX FOR THE TREATMENT OF INVASIVE FUNGAL INFECTIONS IN A TERTIARY HOSPITAL IN THE KINGDOM OF SAUDI ARABIA

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OBJECTIVES: Liposomal amphotericin B [L-AMB] and amphotericin B lipid complex [ABLC] have shown comparable efficacy in the empirical treatment of invasive fungal infections (IFIs). However, evidence suggests that L-AMB has a better safety and tolerability profile. This study evaluated the budgetary impact of introducing L-AMB as an empirical treatment of IFIs at King Faisal Specialist Hospital and Research Centre, Saudi Arabia. **METHODS:** A budget impact model estimated the costs of using L-AMB and ABLC efficacy in the empirical treatment of IFIs from a payer perspective. It included drug costs and the costs of treating drug-related adverse events (AEs). Drug costs were calculated by accounting for the length of therapy, administration and drug wastage costs. The input parameters were retrieved from the literature and expert input. Two scenarios were evaluated, one with ABLC only and the other with L-AMB only. One-way sensitivity analyses (OWSA) were conducted by varying the drug costs, AE costs, AE rates, market shares, and the length of therapy. **RESULTS:** Replacing ABLC with L-AMB resulted in total cost savings of SAR 1.715M, a 22.8% reduction in the total cost of IFI management. L-AMB medication costs and adverse events management costs were lower compared to ABLC (20.5% and 52.7%, respectively). Lower rates of nephrotoxicity, infusion-related reactions and hypomagnesaemia associated with L-AMB compared to ABLC contributed to the savings. OWSA showed that a 20% reduction in length of therapy for L-AMB increased the cost savings to SAR 2.71M. Furthermore, SAR 1.62M in savings were also generated when the AE rates were decreased by 20%. **CONCLUSIONS:** Replacing ABLC with L-AMB was associated with cost savings that were mainly driven by the lower medication costs and lower rates of adverse events for L-AMB vs. ABLC. The total treatment costs were most sensitive to the length of therapy.

PIN18

ESTIMATING THE BUDGET AND CLINICAL IMPACT OF INTRODUCING ISAVUCONAZOLE FOR THE TREATMENT OF PATIENTS WITH POSSIBLE INVASIVE ASPERGILLOSIS IN THE UNITED KINGDOM

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OBJECTIVES: To estimate the 5-year budget and clinical impact of introducing isavuconazole – a triazole antifungal agent indicated in Europe for the