Recently licensed quadrivalent influenza vaccines (QIVs) containing a strain from each B lineage should address these issues, but their impact still needs to be estimated. Our study assesses retrospectively what would have been the public health benefit of routinely vaccinating the US population with QIV instead of TIV.

METHODS: We developed a dynamic compartmental model able to account for influenza activity with 8 lineages per season. The model simulates influenza dynamics for the period 2000-2014, to account for the long-term impact of infection and vaccination. Age-structured population dynamics, vaccination coverage, vaccine effectiveness, and weekly ramp-up of vaccination coverage are modelled. Sensitivity analyses were performed on VE, duration of immunity, levels of vaccine-induced cross-protection between B strains. RESULTS: Assuming a cross-protection of 70% of the matched VE, the model predicts that QIV would have prevented on average 15% more B-lineages than TIV alone in the population. Using this short-cut approach, the model simulates influenza dynamics for the period 2000-2014, to account for the long-term impact of infection and vaccination. Age-structured population dynamics, vaccination coverage, vaccine effectiveness, and weekly ramp-up of vaccination coverage are modelled. Sensitivity analyses were performed on VE, duration of immunity, levels of vaccine-induced cross-protection between B strains. RESULTS: Assuming a cross-protection of 70% of the matched VE, the model predicts that QIV would have prevented on average 15% more B-lineages than TIV alone in the population.

The main aim of this systematic review was to analyse and compare the clinical efficacy and safety of metronidazole, vancomycin and fidaxomicin in the therapy of C. difficile infection. METHODS: Systematic review and meta-analysis of the literature using Bayesian mixed treatment comparison. RESULTS: Nine studies were included in the mixed-treatment comparison. Our meta-analysis showed that clinical cure was non-inferiority compared to fidaxomicin and vancomycin, however the differences were not significant. (odds ratios [95% CI]: fidaxomicin vs. vancomycin 1.19 [0.82-1.66]; vancomycin vs. metronidazole 1.69 [0.93-2.82] and fidaxomicin vs. metronidazole 2.00 [0.99-6.60]). Fidaxomicin therapy was significantly more efficacious than vancomycin and metronidazole in endpoints of recurrence (odds ratios [95% CI]: fidaxomicin vs. vancomycin 0.47 [0.33-0.65]; vancomycin vs. metronidazole 0.91 [0.64-1.69] and vancomycin vs. metronidazole 0.43 [0.19-0.85]) and was superior to metronidazole (odds ratios [95% CI]: fidaxomicin vs. metronidazole 1.77 [1.35-2.28]; vancomycin vs. metronidazole 1.49 [0.92-2.30]; and fidaxomicin vs. metronidazole 2.64 [1.50-4.5]). There was no significant difference between fidaxomicin, vancomycin and metronidazole for all endpoints. Conclusion: Fidaxomicin was the most efficacious therapeutic alternative in lowering the rate of recurrent C. difficile infections.

PIN9

MIXED TREATMENT COMPARISONS TO COMPARE SIMPELVIR WITH BOCEPREVIR AND TELAPREVIR IN COMBINATION WITH PEG-INFERNON ALPH A AND RIBAVIRIN (PR) IN PATIENTS INFECTED WITH GENOTYPE 1 HEPATITIS C VIRUS (HCV)

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OBJECTIVES: To conduct mixed treatment comparisons (MTC) to compare simeprevir, a new generation NS5A/4 protease inhibitor, with boceprevir and telaprevir all in combination with peg-interferon alfa 2a (P) and ribavirin (RBV) in treatment-naive and experienced genotype 1 HCV infected patients. These MTC results were used to inform the cost-effectiveness model for simeprevir and to prepare submissions to EMA and MSAs. A Bayesian random-effects model with the Markov Chain Monte Carlo method was used in the literature review conducted. Outcomes of interest included sustained virologic response (SVR) rates, incidence of anaemia and rash and discontinuation due to adverse events (AEs) rates. Networks were based on treatment-, dose- and duration-specific arms. Outcomes were excluded from the analysis if they were not characterized in the analysis of SVR rates in line with EMA label considerations for simeprevir. Subgroup analyses were conducted to investigate heterogeneity, based on METAIVS scores, sub-genotypes 1a/1b, and prior response. RESULTS: Simeprevir was associated with higher SVR rates than PR alone in both treatment-naive (OR [95% CrI]: 4.83 [3.50-6.70]) and treatment-experienced patients (ODRs: 9.02 [5.54-15.01]) for simeprevir 12+PR/24/48 weeks and 8.73 [5.42-14.19] for simeprevir 12 +PR /48 weeks). Compared to PR, single protease inhibitors (SPI) showed odds ratios ranging from 1.21 [0.81-2.00] to 2.61 [1.44-4.7] in treatment-naive and from 1.04 [0.78-1.38] to 1.74 [0.84-3.61] in treatment-experienced patients. In terms of safety, the risks of anaemia and discontinuations due to AEs were lower for simeprevir compared to PR alone, telaprevir and boceprevir. The risk of rash was lower for simeprevir compared to telaprevir, and similar compared to PR alone and boceprevir. CONCLUSIONS: This MTC in genotype 1 HCV patients suggests a similar or better safety profile compared to vancomycin and metronidazole, compared to telaprevir and boceprevir both in treatment-naive and treatment-experienced patients.

PIN11

COMPARATIVE STUDY OF MACROLIDE GROUP ANTIBIOTICS CONSUMPTION IN UKRAINE, RUSSIA AND KAZAKHSTAN

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OBJECTIVES: This study was conducted to investigate the consumption by ATC / DDD method of macrolide antibiotics in Russia and Kazakhstan in 2012. The study was conducted using data from the Institute, KAMPALA, Uganda, 3College of Medical Sciences, Kampala, Uganda

METHODS: A retrospective study was conducted using data from the Institute, KAMPALA, Uganda, 3College of Medical Sciences, Kampala, Uganda in 2012. In Kazakhstan, this index equaled 4.59%. Azithromycin consumption rate in Russia and Kazakhstan increases every year as consumption index increased for 21.4% and amounted to 0.7931 DID. This means that the consumption of macrolides is increasing in both countries.

Methods: A retrospective study was conducted using data from the Institute, KAMPALA, Uganda, 3College of Medical Sciences, Kampala, Uganda in 2012. In Kazakhstan, this index equaled 4.59%. Azithromycin consumption rate in Russia and Kazakhstan increases every year as consumption index increased for 21.4% and amounted to 0.7931 DID. This means that the consumption of macrolides is increasing in both countries.

Comparing the figures in Ukraine, Russia and Kazakhstan, the largest consumption (in DID) was observed in Russia, Ukraine was in the second place, Kazakhstan was in the third place, during 2010-2012. However, the data were not significantly different; indices were 1.496, 1.445 and 1.356 DID respectively in 2012. The analysis results showed that azithromycin was leading as consumption of DID in 2010-2012. Every year, the consumption of this preparation increases. Compared to 2010, in 2012 the azithromycin DID consumption index increased for 21.4% and amounted to 0.7931 DID. This means that 5.8% of the population of Ukraine takes one course of azithromycin (5 days) during the year. Growth of azithromycin consumption is associated with its high efficacy. It is accumulated in most tissues and organs, it has the least side effects and provides high compliance, it is used in pediatric practice from an early age. Azithromycin consumption in general is increasing and Kazakhstan is growing as well. Calculations showed that 2.12% of the population took a course of azithromycin in Russia during 2012; in Kazakhstan, this index equaled 4.59%. CONCLUSIONS: The analysis showed that, macrolide antibiotics consumption level in Ukraine, Kazakhstan and Russia within the study period was comparable.

PIN12

TEN YEARS OUTCOMES IN A COHORT OF PATIENTS STARTED ON ANTIMETRICAL TREATMENT IN AN URBAN CLINIC IN SUB-SAHARAN AFRICA

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OBJECTIVES: The aim of this study was to evaluate the efficacy and safety of metronidazole, vancomycin and fidaxomicin in the therapy of C. difficile infection. METHODS: Systematic review and meta-analysis of the literature using Bayesian mixed treatment comparison. RESULTS: Nine studies were included in the mixed-treatment comparison. Our meta-analysis showed that clinical cure was non-inferiority compared to fidaxomicin and vancomycin, however the differences were not significant. (odds ratios [95% CI]: fidaxomicin vs. vancomycin 1.19 [0.82-1.66]; vancomycin vs. metronidazole 1.69 [0.93-2.82] and fidaxomicin vs. metronidazole 2.00 [0.99-6.60]). Fidaxomicin therapy was significantly more efficacious than vancomycin and metronidazole in endpoints of recurrence (odds ratios [95% CI]: fidaxomicin vs. vancomycin 0.47 [0.33-0.65]; vancomycin vs. metronidazole 0.91 [0.64-1.69] and vancomycin vs. metronidazole 0.43 [0.19-0.85]) and was superior to metronidazole (odds ratios [95% CI]: fidaxomicin vs. metronidazole 1.77 [1.35-2.28]; vancomycin vs. metronidazole 1.49 [0.92-2.30]; and fidaxomicin vs. metronidazole 2.64 [1.50-4.5]). There was no significant difference between fidaxomicin, vancomycin and metronidazole for all endpoints. Conclusion: Fidaxomicin was the most efficacious therapeutic alternative in lowering the rate of recurrent C. difficile infections.