A META-ANALYSIS OF THREE-DAY AZITHROMYCIN THERAPY VERSUS LONGER COURSES OF COMPARATOR ANTIBIOTICS IN ACUTE SINUSITIS

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OBJECTIVES: The objective of this meta-analysis is to review published clinical trials evaluating the relative efficacy of a three-day regimen of azithromycin versus longer courses of comparator antibiotics. METHODS: A literature search using Medline and Embase identified randomized controlled trials that were published in the English language and evaluated the efficacy of a 3-day regimen of azithromycin versus 10 days of active comparators in adult patients with acute sinusitis. Pooled odds ratios were calculated for clinical success (cure + improvement) at the end of therapy (range: day 10–15) using the Mantel-Haenszel fixed-effect and random-effect models. RESULTS: Among the 7 eligible studies with 1721 patients, the estimated overall success rate at the end of therapy (random effect odds ratio: 1.13, 95% CI: 0.79–1.62) was in favor of azithromycin, although this difference did not reach statistical significance. There were no differences in findings between the fixed- and random-effect models. CONCLUSIONS: A 3-day regimen of azithromycin has at least comparable efficacy to longer courses of comparator antibiotics.

TAMPON-RELATED TOXIC SHOCK SYNDROME (TSS) CONTINUES TO PEAK AMONG ADOLESCENT GIRLS: A NATIONWIDE HOSPITAL STUDY

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Despite the removal of certain types of tampons from the market, tampon-related TSS may still lead to lengthy hospitalization and morbidity for adolescent girls. TSS may be confused with other acute illnesses. OBJECTIVE: To investigate the national rates of TSS hospitalizations among adolescent girls. METHODS: Data from the Health care Cost and Utilization Project (HCUP), collected by the US Agency for Health care Research and Quality, were used for these analyses. The HCUP Nationwide Inpatient Sample (NIS), years 1996–2001, was obtained for ages 10–19, 20–39, and 40–59. Tampon-related TSS was computed as the age-specific rate in females minus the age-specific rate in males. Weighted national estimates for each sex-specific age group were calculated by month of the year and by year. The HCUP Kids’ Inpatient Database (KID), 1997, was divided into ages 0–4, 5–9, 10–14, and 15–18 years. Sex-specific age group compared Numbers of TSS cases. RESULTS: The highest national annual number of tampon-related TSS hospitalizations was for 10–19 year olds, averaging 197 during the years 1996–2001. By contrast, the national average annual number of TSS hospitalization for boys age 10–19 was 76, of tampon-related TSS hospitalizations for 20–39 year old women was 278, and of tampon-related TSS hospitalizations for 40–59 year old women was 94. TSS death rates were lowest for teens. Teen girls demonstrated a unique pattern of elevated rates during the school months. The KID data showed that TSS peaked for girls age 15–18, who suffered nearly half of all cases among girls. Below age 10 similar numbers of TSS occurred for boys and girls. CONCLUSION: Increased awareness of TSS and related conditions should be further defined for subpopulations of adolescent girls who may be at higher risk.

CHANGES IN HIV ANTIVIRAL PHENOTYPIC DRUG RESISTANCE DURING THE HAART ERA

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OBJECTIVE: Patients newly diagnosed with HIV infection are treated initially with three-drug regimens, and many patients have been treated with drugs from three different classes of inhibitors. Optimization of treatment strategies has resulted in improved survival, but resistance develops readily in many patients, and correlates with availability of and exposure to antiretroviral therapy. We studied patient-level trends and variation in phenotypic resistance at several times during the HAART era in the four major U.S. census regions. METHODS: An automated percent sample of patient-level phenotypic resistance testing data from Virologic Inc. was analyzed for July 2001–June 2003. Test results were assigned to zip codes, unique synthetic markers were generated for each record, and protected health information was deleted. 1) Data at the national level was analyzed comparing the average rate of phenotypic resistance seen for each antiviral class in July 2001–June 2002 compared to July 2002–June 2003, and 2) for each US census region compared to the US-wide average. Results were analyzed for statistically significant differences. RESULTS: There were 500,000 + phenotypic drug resistance tests results in the combined study period. 1) No significant differences were seen in the average US-wide phenotypic resistance by class for July 2002–June 2003 compared to July 2001–June 2002. 2) Significant differences were seen for patient level phenotypic resistance by class when comparing various Regions to the US-wide average, and when comparing regions to each other. CONCLUSION: While the average phenotypic resistance to HIV antivirals by class remained unchanged from the 12-month comparative periods, significant differences exist across Regions. Clinicians need to consider Regional variation in susceptibility to HIV antivirals in interpreting national findings and guidelines, and in patient-level prescribing decisions.

AN EVIDENCE BASED PROPOSAL TO MODIFY PRESCRIBING PATTERNS: THE CASE OF METRONIDAZOL USED WHEN INTESTINAL AMOEBIASIS IS SUSPECTED

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OBJECTIVE: To discuss the importance of published evidence to modify prescribing behaviours and to describe the case of metronidazol in suspected intestinal amoebiasis. METHODS: In Mexico and developing countries intestinal, amoebiasis is over diagnosed in acute diarrhoea (Entamoeba histolytica found only in 2%) with the consequent over use of metronidazol (40–60%). We reviewed 90,700 prescriptions during August 1999 in three primary care facilities in Mexico City. A total of 1790 prescriptions of oral metronidazol were found and 300 were randomly chosen to review the medical charts (diagnosis and dosage characteristics). Micro-costing was also performed using the prices of the institution. RESULTS: Metronidazol was prescribed when intestinal amoebiasis was suspected in 746 cases (83%). The prescriptions did not follow the established criteria (WHO and other authors) in 96% (n = 724). Metronidazol was prescribed when there was diarrhoea with mucus and blood in 57% and in unspecified data of “colitis” in 39%. Only in 8 cases asymptomatic amoebiasis was diagnosed. Mean monthly cost per medical office of unjustified metronidazol prescription was $43.5 Mexican pesos (4 USD). The national annual projection of that
institutions was $3,495,887 (322,350 USD). Sensitivity analysis for the worst scenario (3% of metronidazol prescriptions, 96% unjustified prescriptions and a higher unit price) would lead to an annual cost of $5,193,064 (478,844 USD). CONCLUSIONS: Inadequate prescribing criteria persists for metronidazol despite of clinical criteria and published evidences. Our study showed that there is a gap between medical practice and clinical and health economics research. There is also an opportunity to update clinicians’ knowledge using educational strategies. Another challenge is to educate patients in the sense that drugs prescription is not always the best option but hygiene, good sanitary conditions and nutrition, and prevention. Finally the opportunity cost of unjustified prescriptions should not be underestimated but more often evaluated and taken into account for policies.

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VARIABILITY IN THE USE OF HIV PHENOTYPIC TESTING BY SPECIALTY OF PRACTITIONER
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OBJECTIVE: HIV treatment has involved infectious disease specialists and other specialties. We studied the relative use of phenotypic resistance testing among specialties and by different regions in the U.S over time. METHODS: Phenotypic resistance testing data from Virologic was aggregated for 7/01 ¨C 6/03. Tests were assigned to each ordering physicians. Self-reported specialty was identified and an automated sample generated. Specialties were grouped as infectious disease, internal medicine, primary care (family practice & general practice) and all others. “Unspecified” physician records were deleted. Data were analyzed for statistically significant differences in: the average use of resistance testing by each specialty in July 2001–June 2002 compared to July 2002–June 2003 across the US, and the use of resistance testing in the each US census region compared to the average US-wide use for each respective specialty. RESULTS: There were approximately 2600 physicians in the sample for which 250,000 drug resistance tests were conducted. It showed across the US the average use of phenotypic resistance testing by Infectious Disease statistically increased 5% (p > 0.05) for July 2002–June 2003 compared to July 2001–June 2002 and the use by other specialties decreased. Within each specialty there were statistically significant differences by geographic region in the use of phenotypic resistance testing. CONCLUSION: Based on its relative ease of interpretation compared to genotypic information we might have predicted that the use of phenotypic resistance testing would increase for non-Infectious Disease specialists. The reverse was true i.e. it increased for Infectious Disease relative to other specialties use. Significant differences in the use of phenotypic resistance testing were also seen by regions. Contributing factors may include increasing adoption of phenotypic resistance testing by Infectious Disease specialists, variation in patient severity and financial constraints.

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OFF-LABEL USE OF PIPERACILLIN/TAZOBACTAM (ZOSYN®) IN A PEDIATRIC UNIT
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OBJECTIVE: The intravenous piperacillin/tazobactam antibiotic combination product does not currently carry an indication for pediatric use in the United States. Despite the lack of established pediatric safety data in the US, piperacillin/tazobactam is commonly prescribed for the treatment of infectious diseases in this population. This study examines the safety of intravenous (IV) piperacillin/tazobactam prescribed off-label to hospitalized pediatric patients. METHODS: This protocol is an on-going (~2 years duration) observational study evaluating off-label medication usage in the pediatric population. The pharmacy order entry system, containing all medications prescribed to a patient during hospitalization, is examined on a twice-weekly basis to identify patients admitted to a general pediatric unit who receive off-label IV piperacillin/tazobactam. Charts of identified patients are then reviewed to determine applicable medical history and outcomes of piperacillin/tazobactam use. RESULTS: Forty-three courses of IV piperacillin/tazobactam were administered to 39 pediatric patients ranging in age from 5 months to 18 years (mean ± SD 9.7 ± 5.7 years). The mean weight of the patients was 29.2 kg (range 6.5 to 70.3 g). The average dose and duration of piperacillin/tazobactam therapy was 9.6 g/day (range 1.8 to 18 g) and 6.4 days (1 to 20 days), respectively. Of the 43 pediatric observations, no adverse drug events were reported resulting from piperacillin/tazobactam administration. CONCLUSIONS: Availability of combination antibiotic medications approved for use in hospitalized pediatric patients is limited. Based on the small number of patients in this review, off-label use of piperacillin/tazobactam appears to be safe in the management of infectious disease in a general hospital pediatric unit. However, further investigation involving larger pediatric populations is required to establish the true safety of piperacillin/tazobactam in hospitalized pediatric patients.

Pin11

TESTING AND TREATMENT OF HEPATITIS C IN THE LOUISIANA MEDICAID POPULATION
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OBJECTIVES: Chronic hepatitis C is a major public health problem whose incidence is expected to increase. But, treatments are available that can eliminate the virus in about 50% of cases. The purposes of this research were to: examine the prevalence of hepatitis C in the Louisiana Medicaid population, determine testing rates and follow-up physician visits in at-risk populations and examine treatment of hepatitis C. METHODS: The was a retrospective analysis of Louisiana Medicaid medical and pharmacy claims. RESULTS: The 3-year prevalence of hepatitis C as determined by a primary or secondary diagnosis was 7.08 per 1000. Of those diagnosed from 1998–2000, 35% were age 41–50; 31%, age 21–40; and 23%, age 51–64. Of the 25,788 recipients who were tested for hepatitis C in the 3-year period, the highest testing rate in at-risk groups was among those with hepatitis B with almost 73% having had a hepatitis C test. Other at-risk groups were not tested at that rate. Of the 25,788 tested for hepatitis C, 17,385 received follow-up care (an outpatient physician visit within 90 days of the test). Of those who were tested, 643 received a diagnosis of hepatitis C with 489 (76%) receiving treatment. Of those treated, 364 (74.44%) started on monotherapy and 125 (25.56%) started on combination therapy. Switches from monotherapy to combination therapy were common. After 6 months, 132 had switched to combination therapy and 204 had switched by 12 months. Of those diagnosed with cirrhosis, 88.07% also had a diagnosis of hepatitis C. Of recipients with other advanced liver disease, 53.47% had a hepatitis C diagnosis. CONCLUSIONS: There is a high prevalence of hepatitis C in the Louisiana Medicaid program. Many at risk-recipients are not being tested. Of those tested, most received follow up care and most diagnosed with hepatitis C were receiving treatment.