

307

WHOOPING COUGH IN CHILDREN: EXPERIENCE OF HOSPITAL SÃO JOÃO (2003- 2009)

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Background: *Bordetella pertussis* (BP) is a worldwide public health problem, which affects 20 to 40 million people each year.

Objective: To describe the clinical and epidemiological pattern of BP infection among children.

Methods: We analyzed the clinical files of children with a PCR-confirmed BP in nasopharyngeal aspiration who were hospitalized in a tertiary care hospital between January 2003 and December 2009.

Results: There were 36 admissions for whooping cough; 75% of them were infants younger than 2 month-old and 69% had never been vaccinated. The average length of hospitalization was 12.7 days. There was no difference between winter and summer months. The prevalence was higher in 2006 (28% of all cases). Dual infection of BP with other agents occurred in 31% (7 cases of respiratory syncytial virus and 1 case each of metapneumovirus, parainfluenza 3 and adenovirus).

Cough was the most frequent symptom (89%; median duration of 12 days). Leukocytosis occurred in 33% and lymphocytosis in 64%.

All patients were treated with macrolides (74% erythromycin). Supplemental oxygen was used in 47% (median 8.5 days); bronchodilators in 64%, systemic corticosteroids in 33% and respiratory exercise in 8%.

The major complications were apneas (25%) and pneumonia (19%). There were 7 (19%) severe cases that required mechanical ventilation, all in children younger than 3 month-old. One death occurred in a 1 month-old patient.

Conclusion: Despite widespread vaccination, the incidence of BP has been rising. New vaccination

strategies should be evaluated to protect infants as early in life as possible.

308

COMPARISON OF ANTIBIOTIC DOSING RECOMMENDATIONS FOR NEONATES FROM COMMON REFERENCES

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Background and aims: Computer physician order entry (CPOE) and clinical decision support systems contribute to the reduction of medication errors. Although evidence-based dosing should be included in the systems, data are not always available and dosing is based on expert opinion, derived from guidelines and textbooks. To define a gold standard for neonatal antibiotic dosages, we compared recommendations provided by international reference sources.

Methods: Neonatal daily doses for the 12 most frequently used antibiotics were identified from 7 well-respected references (Nelson's, British National Formulary for Children, Pediatric Dosage Handbook, Redbook, etc). The average daily dosage (ADD) was calculated, as well as the relative deviation $Rd = (DD_{max} - DD_{min}) / ADD * 100\%$.

Results: The sources provided recommendations for neonatal sepsis (n = 7), meningitis (n = 7), and necrotizing enterocolitis (n = 1). The dosing recommendations of amoxicillin, ampicillin, amoxicillin-clavulanic acid, flucloxacillin, meropenem, gentamicin, vancomycin, erythromycin, cefotaxime and rifampicin did not show clinically relevant differences ($Rd < 50\%$). Dosing recommendations for benzylpenicillin and ceftazidim showed major variation between sources ($Rd = 75\%$ and $Rd = 68\%$, respectively).

Conclusions: Gold standard, expert opinion antibiotic dosage recommendations for neonates can be derived from important textbooks and guidelines for most, but not all antibiotics. To obtain full benefit of CPOE and clinical decision

support systems in neonatology, further exploration to overcome guideline variations is necessary. Uniformity in neonatal dosage recommendations of antibiotics can also serve as a basis for developing a set of neonatal defined daily doses (nDDD), a valuable tool for analysis of drug consumption.

309

POSITIVE IMPACT ON SURVIVAL FOR CHILDREN WITH AIDS IN BRAZIL: COMBINED ANALYSIS OF TWO NATIONAL STUDIES, 1983-1998 AND 1999-2002

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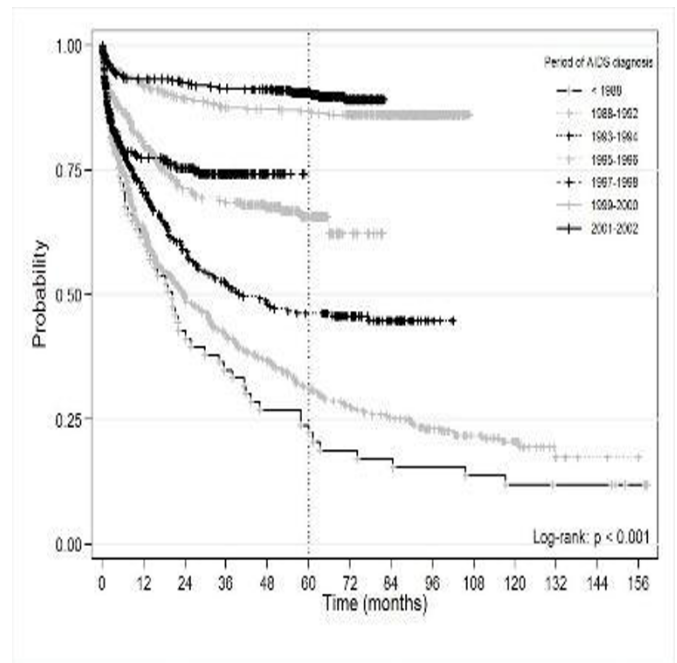
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Background: Brazil is known for its AIDS control program, including universal access to prevention, diagnosis, and treatment. Survival data is one indicator for program monitoring and evaluation. However, there are no systematic data on survival of children with AIDS.

Methods: This analysis is based on 2 retrospective cohort studies of children under age 13 diagnosed in 1983-1998 and 1999-2002 (N=914 and 920, respectively). Both were randomly sampled from all reported cases in the country and employed similar methods. We calculated probability of survival to 60 months for children diagnosed with AIDS due to vertical transmission.

Results: In the first study (1983-1998), overall survival to 60 months was 52.8% (95% CI: 41.9%-60.8%). In the second study (1999-2002), overall survival increased to 86.5% (83.0%-89.3%). During the entire period, the probability of survival to 60 months increased by 4.5-fold, rising from about 20% to 90% (see figure; $p < .001$ by log-rank test). Among the 16 cases diagnosed 1983-1987, survival was 19.7% (11.2%-30.0%). For the 265 cases in 1988-1992, it was 27.3% (22.9%-31.9%). For 1993-1994, survival was 39.7% (N=196; 33.4%-45.9%). For 1995-1996, it was 59.5% (N=221; 52.8%-65.6%). For 1997-1998, it was 68.2% (N=216; 61.6%-73.9%). For 1999-2000, it was 86.5% (N=470;

83.0%-89.3%); and for 2001-2002, it was 90.2% (N=450; 87.0%-92.7%).



[Survival Curve - Children with AIDS, Brazil]

Conclusions: These results demonstrate the impact of Brazilian policies for children with AIDS. But this achievement creates new challenges related to providing longitudinal comprehensive care and maintaining high quality as well as quantity of survival.

310

TOWARDS ELIMINATION OF VERTICAL TRANSMISSION OF HIV IN SÃO PAULO STATE, BRAZIL - ANALYSIS OF THE PERIOD 1984-2008

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Background: São Paulo State has been a pioneer in adopting measures for prevention of mother-to-child transmission (MTCT) of HIV since the mid-1990s. Consequently, HIV infection in children has steadily diminished. Reported AIDS cases in children under five is a useful proxy for MTCT.

Methods: We studied AIDS incidence rates in children under five in São Paulo (Brazil southeast)