Randomized Trial of Amoxicillin for Pneumonia in Pakistan
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Background & Objectives: IMNCI and WHO both have recommend 3 days course of oral amoxycillin for non severe pneumonia diagnosed based on tachypnea and increased breathing effort in low HIV prevalent areas. The RETAPP (Randomized Trial of Amoxicillin Versus Placebo for Pneumonia) study compares amoxycillin with placebo for pneumonia with tachypnea.

Methods: Prospective, double-blind, randomised, controlled non-inferiority trial involving children at primary health care centres in Karachi, Pakistan. Children who were 2 to 59 months of age and who met WHO criteria for non-severe pneumonia with tachypnea were randomly assigned to a 3-day course of a suspension of amoxicillin (the active control) of 50 mg per millilitre or matched volume of placebo (the test regimen), according to WHO weight bands (500 mg every 12 hours for a weight of 4 to <10 kg, 1000 mg every 12 hours for a weight of 10 to <14 kg, or 1500 mg every 12 hours for a weight of 14 to <20 kg). The primary outcome was treatment failure during the 3-day course of amoxicillin or placebo. The pre-specified non-inferiority margin was 1.75 percent- age points.

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet

Amoxicillin versus Placebo for Pneumonia: Should we give amoxycillin for all pneumonia?

Results: From November 9, 2014, through November 30, 2017, a total of 4002 children underwent randomisation (1999 in the placebo group and 2003 in the amoxicillin group). In the per-protocol analysis, the incidence of treatment failure was 4.9% among placebo recipients (95 of 1927 children) and 2.6% among amoxicillin recipients (51 of 1929 children) (between-group difference, 2.3 percentage points; 95% confidence interval [CI], 0.9 to 3.7). Results were similar in the intention-to- treat analysis. The presence of fever and wheeze predicted treatment failure. The number needed to treat to prevent one treatment failure was 44 (95% CI, 31 to 80). One patient (<0.1%) in each group died. Relapse occurred in 40 children (2.2%) in the placebo group and in 58 children (3.1%) in the amoxicillin group.

Conclusions: Among children younger than 5 years of age with non-severe pneumonia, the frequency of treatment failure was higher in the placebo group than in the amoxicillin group, a difference that did not meet the non-inferiority margin for placebo.

Key message: Oral amoxycillin is effective therapy in non severe pneumonia (2months -59months) and must be given in presence of fever and wheezing.

EXPERT COMMENT

"This study reenforces the WHO recommendation on amoxycillin in non-severe pneumonia in developing country. But it should be noted that all children with non severe pneumonia unlikely to be benefited with amoxycillin as NNT is 44. Other clinical parameters (i.e fever, wheeze) should be taken into consideration for more judicial and rational use of amoxycillin in non severe pneumonia."

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