The Turkish Journal of Pediatrics
Volume 21 / Nos 2-4 / April-October 1979 / pp. 46 - 47

Trimethoprim-Sulphamethoxazole Treatment in Premature Infants with Salmonella Infection

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To the Editor

Gastroneteritis, sepsis and meningitis caused by Salmonella species are still the most prominent causes of neonatal morbidity and mortality in developing countries,[1,2,3] and the progress of Salmonella gastroenteritis into sepsis is more rapid and fatal in premature infants.

In the neonatal age group, TMP-SMZ was first successfully used in treating an infant with meningitis.[4] This combination was then applied to cases that were resistant to commonly used antibiotics, unusual infections, the treatment of neonatal sepsis and meningitis.[5-8] However, sufficient data is still not available on the extensive application during the first month of life of Trimethoprim-Sulphamethoxazole, a sensitive antibiotic for Salmonella typhimurium.[9]

Therefore, we report the results of oral application of TMP-SMZ on 15 nonicteric premature infants with Salmonella typhimurium gastroenteritis after the first week of life.

All the cases were admitted to the newborn Unit on their first day of life, gestational ages ranging from 31 to 37 weeks. The gastrointestinal disturbances were manifest at mean 9th day of life, the earliest on the 2nd day of life. Salmonella typhimurium was identified by routine laboratory methods, and sensitivity tests were performed by disc diffusion method. Salmonella typhimurium was observed to be sensitive to TMP-SMZ

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and Keflin in all cases and Gentamycin in some. TMP-SMZ was administered orally at a dose of 6 and 40 mg/kg respectively from the first day of enteritis for a mean duration of 10 days.

In ten out of 15 babies, only gastroenteritis was observed and these were discharged. In five cases, sepsis developed and death resulted. Salmonella typhimurium was isolated in one case on blood culture; E. coli in he other. These five babies were given crystalized penicillin 100.000 U/kg., gentamycin 6 mg/kg., parenterally in additon to TMP-SMZ.

After ten days of TMP-SMZ treatment in none of the cases, side-effects of the drug were apparent in hematological and urinary examinations.

This preliminary report suggests that early application of TMP-SMZ might be beneficial in the prevention of the progress of gastroenteritis into sepsis for two-thirds of the premature infants. Controlled studies may determine the definite efficacy of this combination in treating Salmonella gastroenteritis and sepsis.

However, it should be noted that TMP-SMZ should not be the first and only choice in the control of neonatal sepsis.[10]

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