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G.Kern, T.Popow-Kraupp, M.Kundi, O.Stur, H.Wallner, H.Gadner, C.Binder, W.Potacs, A.Stiskal, C.Kunz (introduced by O.Stur), Institute of Virology, University of Vienna, Austria. RESPIRATORY VIRAL INFECTIONS IN YOUNG HOSPITALIZED CHILDREN AND OUTPATIENTS IN AUSTRIA. PRELIMINARY RESULTS OF A LONG TERM STUDY.

Only few data are available on the epidemiology of rhinovirus infections and their contribution to viral respiratory tract infections in children. We have therefore started a long term study to investigate the disease incidence in relation to season, age, socioeconomic, environmental, and somatic factors. Nasopharyngeal aspirates were screened for the presence of respiratory syncytial virus (RSV), adenoviruses (AD), parainfluenza virus type I,II,III (PI,II,III), influenza virus type A and B (I-A,I-B), enteroviruses (ENT), and rhinoviruses (RHV) by enzyme immunoassay and tissue culture isolation procedure. Preliminary results are as follows: From October 1984 to March 1985, nasopharyngeal aspirates were obtained from 254 children (86.2% hospitalized, 13.8% outpatients) aged 1 month to 6 years. In 54.9% an upper (URI) and in 45.1% a lower respiratory tract infection (LRI) was the reason for medical consultation. 17% of the URI were due to RSV and 11% due to RHV. RSV was recovered in 36.2% and RHV in 6.7% of the specimens derived from patients with LRI. Family size had no influence on the attack rate of respiratory tract infections. A higher incidence and a more severe clinical course of respiratory tract disease was found in children exposed to parental smoking. Similar results were obtained in children from families with a history of chronic respiratory tract disease.

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A PROSPECTIVE STUDY ON THE INCIDENCE AND EVOLUTION OF CONGENITAL CMV INFECTION IN AN URBAN ITALIAN COMMUNITY.

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Congenital CMV infection is found in 0.2-2.3% of newborn infants as reported. These studies, conducted mainly in England and USA, have dealt with populations whose racial origins, socioeconomic status and access to health care programs don't represent well the situation found in most urban communities of NorthernItaly. Accordingly,we undertook in may 1984 a long term prospective study of the epidemiology of congenital CMV infection in the city of Padova, a community of approximately 250.000 people in the north-east of Italy. Urine samples were taken from babies born in the Dpt. of Obstetrics, Padova general hospital during the first few days of life. These urine were collected into virus transport medium and inoculated in duplicate into human lung embryo fibroblast cultures. CMV was identified by the appeareance of the typical cytopatic effect. Congenital infection was diagnosed when CMV was isolated from a baby's urine in the first week of life. Negative samples were examined for four weeks before being discarded. At the moment, we have studied 505 full-term neonates (b.w. 3.340 gr; g.a. 40 wks), 39 preterm (b.w. 2.517 gr;g.a.36wks) and 6 small for date neonates (b.w.2328; g.a.39 wks). 1 out of 550 newborns was found to be congenitally infected, giving a rate of 0.2%, which is similar to the incidence found in northern Europe. At birth the congenitally infected baby had no problems, b.w. was 3.615 gr and gest.age 40 wks. The infant has beenfollowed up at 3 and 6 months. The urine were still positive for CMV but the baby seemed to be normal. Any way she need to be followed up for a long time. So like wise the exact rate of congenital infection in our country must be state after a longer time study.

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EFFECT OF AZTREONAM ON AEROBIC FECAL FLORA IN INFANTS AND CHILDREN.

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Aztreonam, a new monobactam, has a spectrum limited to gram negative aerobic bacilli. To evaluate its effect after parenteral administration on aerobic stool flora (gram negative bacilli, Streptococci D, Staphylococci, Candida), quantitative cultures used serial dilution of stools twice a week on selective media. For gram negative bacilli, agar dishes containing aztreonam or not were used. Colonies of different morphologies were counted. Representatives of each morphological type were then picked for identification and susceptibility tests. Among the 16 patients treated, 12 were decontaminated for aerobic gram negative bacilli by the 3rd day. Sensitive bacteria persisted in 4 cases, although at a low level (10^5/g). Resistant bacteria (Enterobacter cloacae and Acinetobacter) appeared at a"normal"level in 2 patients initially decontaminated. No dramatic change could be detected for Streptococci D, Staphylococci and Candida. In twelve additional infants neither hospitalized nor treated, no aztreonam resistant gram negative bacilli could be found.

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CEFTAZIDIME (CF) VERSUS NETILMICIN (NM) IN THE TREATMENT OF NEONATAL SEPSIS.

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The combination of an aminoglycoside and ampicillin is a commonly used regimen for the initial treatment of neonatal sepsis. Ceftazidime is one of the new cephalosporins, which may have certain advantages for the treatment of neonatal infections. We evaluated the efficacy and safety of CF plus flucloxacillin (FL) versus NM plus FL in a randomised comparative study. The addition of FL was decided because of the increased incidence of staphylococcal colonization/infections among the neonates admitted to our NICU the population of which consists only of outborn referrals. Nineteen neonates (10 preterm, 9 term) with clinical signs of infection entered the study protocol. Ten neonates received CF+FL and 9 NM+FL. All neonates had abnormal WCC and/or increased CRP value and 8 had positive blood cultures (5 Staph. aureus, 3 E.Coli). Seventeen neonates were cured and 2 died (both of the NM+FL group) probably of their underlying disease. No side effects or toxicity attributable to the antibiotic administration were observed. From the results of this small series it appears that the combination of CF+FL is effective in treating neonatal sepsis and probably preferable if aminoglycoside blood levels cannot be monitored.

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Pharmacokinetic of clavulanic acid in newborns and children

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Pharmacokinetic of clavulanic acid (C.A.) was studied in newborns and children in combination with amoxicillin (Augmentin) or Ticarcillin (Timentin). Augmentin was administered by 30 mn IV. infusions : 100 mg amox/10 mg CA/kg/day before 3 months, 100-200 mg amox./10-20mg CA/kg/day after 3 months (4 infusions in children, 2 infusions in newborn period). Timentin was given identically : 250 mg TIC/10 mg CA/kg/day before 3 months, 300 mg TIC/20 mg CA/kg/day after 3 months. 8 newborns and 6 children were treated by Augmentin, 3 newborns and 10 children by Timentin. Serum levels were determined by microbiological method. Results are in the table I :

	AUGMENTIN			TIMENTIN		
	Cmax	T1/2 β	VD	Cmax	T1/2 β	VD
CHILDREN	4.6 g/l ±0.6	1.02 h ±0.47	1.1 ±0.61/kg	4.8g/l ±0.6	1.06 h ±0.3	0.61 ±0.2
NEWBORNS	4g/l	1.78h	1.1 ±0.61/kg	4.5 to 5.5g/l	1.8h	0.51 ±0.15

These results suggest the usefulness of 4 infusions/day, to maintain inhibitor serum level of C.A. active against beta-lactamases.