

▲ 343

Direct Immunofluorescence in Diagnosis of Viral Respiratory Infections

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In acute respiratory infections, rapid diagnosis can be helpful for clinical decisions, like treatment, admission or isolation. As viral diagnosis by culture will take two to 7 days, the direct immunofluorescence assay (DIFA) was evaluated for its reliability as rapid diagnostic method.

650 nasopharyngeal aspirates taken in 1993 from children with an acute respiratory infection, being admitted or visiting the outpatient department, were simultaneously processed for DIFA on influenza A, B, parainfluenza, adenovirus and respiratory syncytial virus and virus isolation on tissue culture. In all DIFA's monoclonal antibodies were used. The results with virus culture as a golden standard, are given in the table:

virus	N DIFA pos (%)	sens.	spec.	p.v.* +	p.v. -
RSV	66 (10.2)	95.4%	99.1%	92.6%	99.4%
Adeno	9 (1.4)	55.5%	99.8%	83.3%	99.3%
Inf. A	32 (5.0)	71.8%	99.5%	88.0%	98.0%
Inf. B	13 (2.0)	76.9%	100%	100%	99.5%
Parainf	56 (8.7)	78.5%	88%	88.0%	97.9%

All DIFA's turned out to be very specific, RSV was however the only test which can be used as single test for diagnosis. For the other respiratory viruses a negative DIFA has a poor sensitivity and should be confirmed by virus isolation on tissue culture.

* predictive value

● 344

TUBERCULOSIS (TB) IN CHILDREN: AN EVALUATION OF CLINICAL FEATURES AND SPECIAL INVESTIGATIONS AS DIAGNOSTIC CRITERIA

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The symptoms, clinical features and chest radiography (CR) features of 340 children aged <13 years with suspected TB were prospectively evaluated. Results are tabulated.

	Confirmed TB n = 191 (56%)	Probable TB n = 86 (25%)	Not TB n = 63 (19%)
Number (% of total)			
Contact adult PTB	78 (41%)	48 (56%)	13 (21%)
Weight loss/failure to gain	95 (50%)	62 (72%)	34 (54%)
Symptoms for >2 weeks	76 (40%)	23 (27%)	21 (33%)
Respiratory signs	135 (71%)	71 (83%)	62 (98%)
CR: Lymphadenopathy	103 (54%)	56 (65%)	4 (6%)
Lobar/segmental collapse	29 (15%)	14 (16%)	9 (14%)
Pleural effusion	18 (9%)	10 (12%)	3 (5%)
Miliary	11 (6%)	1 (1%)	0
Normal CR	24 (13%)	2 (2%)	4 (6%)

Tuberculin testing was positive in 39% of confirmed cases and 51% of probable TB. Conclusions: Symptoms and signs were of little diagnostic help. Adult PTB contact and poor nutrition is common in endemic areas. Greatest specificity, besides a positive culture for *M. tuberculosis*, was provided by lymphadenopathy on CR and a positive tuberculin test. For epidemiological purposes better verifiable conditions i.e. miliary TB and TB meningitis should be utilised.

● 345

PATIENTS SUSPECT OF MENINGITIS. A STUDY IN GENERAL PRACTICE

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The purpose of this study was to trace the problems that occur in general practice dealing with patients suspect of meningitis.

We used data of the Dutch National Survey of Morbidity and Interventions in General Practice (NIVEL). In 103 practices of 161 general practitioners, with a total population of 335 000 persons, all patient contacts were registered. The national survey contains also data of patients admitted into hospital.

We studied all patients with a provisional diagnosis meningitis by the GP and all patients with hospital discharge diagnosis meningitis. Additionally we questioned the GPs involved.

17 patients were found with a provisional diagnosis meningitis made by the GP; 8 of these patients had a final diagnosis meningitis (47%). In the majority of patients with another final diagnosis, the GP reported of meningeal irritability and a lowered consciousness but this was not confirmed in hospital. Of all patients with a final diagnosis meningitis 80% had the same provisional diagnosis by the GP. Patients with another diagnosis of the GP had symptoms pointing to meningitis.

We conclude that it is difficult to diagnose meningitis in general practice. Inevitably, children will be referred suspect of meningitis, which is not confirmed in hospital.

● 346

INCIDENCE AND MANAGEMENT OF ACUTE OTITIS MEDIA

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Introduction. In the Netherlands the recommendations for treatment of acute otitis media imply more restrictive use of antibiotics than in other countries. We studied nationwide data on the incidence, treatment, and short-term follow up of acute otitis media in general practice.

Methods. We used data from the "Dutch National Survey of Morbidity and Interventions in General Practice", in which 161 GPs registered every contact between patient and practice during three months. Census data of the practice population (64000 children aged below 15) were collected. We selected all contacts with the provisional diagnosis acute otitis media.

The overall incidence was 101 per 1000 personyears. The incidence was highest in 3 and 4 year old children and in the months January to March. We could follow the registered contacts of 1322 children for 1 month. Antibiotics (mainly oral penicillins) were prescribed to only 21% of the in the first contact. Children with fever or respiratory complaints received antibiotics more frequently. In the follow up recurrent otitis media (31%), glue-ear (5%), and chronic suppurative otitis media (1%) occurred. The registered contacts of the follow up month did not show meningitis, mastoiditis, or cholesteatoma was observed during follow up.

Conclusions. These data are in agreement with local studies published in the past. The data support the idea that a relative infrequent use of antibiotics even in children < 1 year, is not associated with a high frequency of complications.

▲ 347

COLONIZATION OF NEONATES IN INTENSIVE CARE WITH GENITAL MYCOPLASMAS

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Ureaplasma urealyticum (Uu) and Mycoplasma hominis (Mh) have been recently found to be potentially pathogenic for neonates. The purpose of our study was to determine the colonization of the respiratory tract of neonates with Uu and Mh, the nosocomial transmission, and the correlation of colonization with bronchopulmonary dysplasia (BPD). We studied 139 neonates whose birth weight were: (37<1000gr, 48-1001-1500g, 39 1501-2500 and 15>2500g). Out of these babies 48% were intubated. Ureaplasma was isolated from nasopharynx in 39% and from tracheal aspirates in 33% of babies and these were not significantly different in all birth weight subgroups. The nosocomial transmission was 24%. Colonization with Mh was found in 3.5% of the neonates. The correlation between colonization and BPD showed that 40% of the colonized babies developed BPD and only 12% of those who were not colonized (p=0.03).

European Society for the Study and Prevention of Infant Death (ESPID)

▲ 348

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Sudden infant death syndrome - a marked decrease in incidence by changing the prone sleeping position.

In december 1991 the National Board of Health changed the official recommendations concerning sleeping position - and from this date recommended that all newborn children should be placed in back or side position while sleeping. From epidemiologic studies the prone sleeping position was associated with a risk for sudden infant death syndrome (SIDS). An evaluation of the changed recommendations was carried out in 1993. Before the new recommendations about 50-60% of all children at age 4 month were sleeping in the prone position, but in 1993 only 10% of the 4 month old children were placed in the prone sleeping position.

In the table the change in incidence of sudden infant death syndrome is shown. There has been a decrease in incidence from 1,8/1000 newborn to 0,6/1000 newborn (67%). These data confirm that the prone sleeping position is a major risk factor for SIDS and that the health system in Denmark is able to change and implement new recommendations very fast. We recommend all health authorities to follow the Danish example.

	1989	1990	1991	1992	1993
Mortality from SIDS per 1000 newborn	1.85	1.62	1.79	1.22	0.6