

III. PROPHYLACTICAL PROBLEMS

THE ROLE OF SOME VIRUSES, RICKETTSIAE AND CHLAMYDIAE IN THE ETIOLOGY OF PNEUMONIAE

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Key-words: *Pneumonia - etiology - viruses - Rickettsiae - Chlamydiae - Varna city*

Numerous authors' investigations demonstrate the rising role of some respiratory viruses and non-bacterial agents in the etiology of acute pneumoniae. In this respect, influenza viruses, adenoviruses, Respiratory-Syncytial virus (RS-virus), *Mycoplasma pneumoniae*, *Coxiella Burnetti*, *Chlamydia psittaci*, etc. are of great importance.

The purpose of the present work was to follow-up by serological methods the role of some viruses, Rickettsiae and Chlamydiae in the etiology of pneumoniae in Varna city during the period from 1985 till 1988.

MATERIAL AND METHODS

A total of 686 pneumonia patients hospitalized in the Department of Internal Medicine of the District Hospital, of Workers' Hospital as well as in the Clinic of Pulmology of the Higher Institute of Medicine, Varna, were covered in our trial. Diagnosis was based on results from complex examinations: clinical, clinico-laboratory, roentgenological, bacteriological, and virological ones. Sera were taken during the acute and convalescent period of the disease. A broad set of viral and other antigens by using of the reaction of complement binding was used to perform serological examinations.

Results were considered positive when antibody titre in the second serum samples had increased at least fourfold.

RESULTS AND DISCUSSION

Our results are presented on table 1 as well as on figures 1 and 2.

Table 1 indicates the distribution of etiologically proved pneumoniae during the period from 1985 till 1988. It is evident that viral etiology (without the participation of influenza viruses) is proved in 1985 in 29.70 per cent of pneumonia cases; in 1986 - in 33.51 per cent; in 1987 - 31.78 per cent and in 1988 - in 36.36 per cent of the cases. In 1985, 8.41 per cent of pneumonia are caused by adenoviruses; 6.43 per cent - by RS-viruses; 3.96 per cent - by Reo-viruses; 2.97 per cent - by parainfluenza viruses, etc. In 1986, 8.37 per cent of proved pneumonia patients showed an adenovirus etiology, 6.14 per cent - a RS-virus one, 5.58 per cent - *M. pneumoniae* one, and 5.02 per cent - a parainfluenza virus one. In 1987, adenovirus pneumoniae represent 7.28 per cent of the cases; RS-virus ones - 5.96 per cent; parainfluenza virus ones - 5.29 per cent, *M. pneumoniae* ones - 3.97 per cent, and Reo-virus ones - 3.24 per cent. In 1988, adenoviruses cause pneumonia in 9.74 per cent; RS-viruses - in 7.14 per cent; para-influenza viruses - in 6.49 per cent; *M. pneumoniae* - in 4.54 per cent, and Reo-viruses - in 3.24 per cent of the patients.

One can see on fig. 1 that during the period from 1985 till 1988 the percentage of both

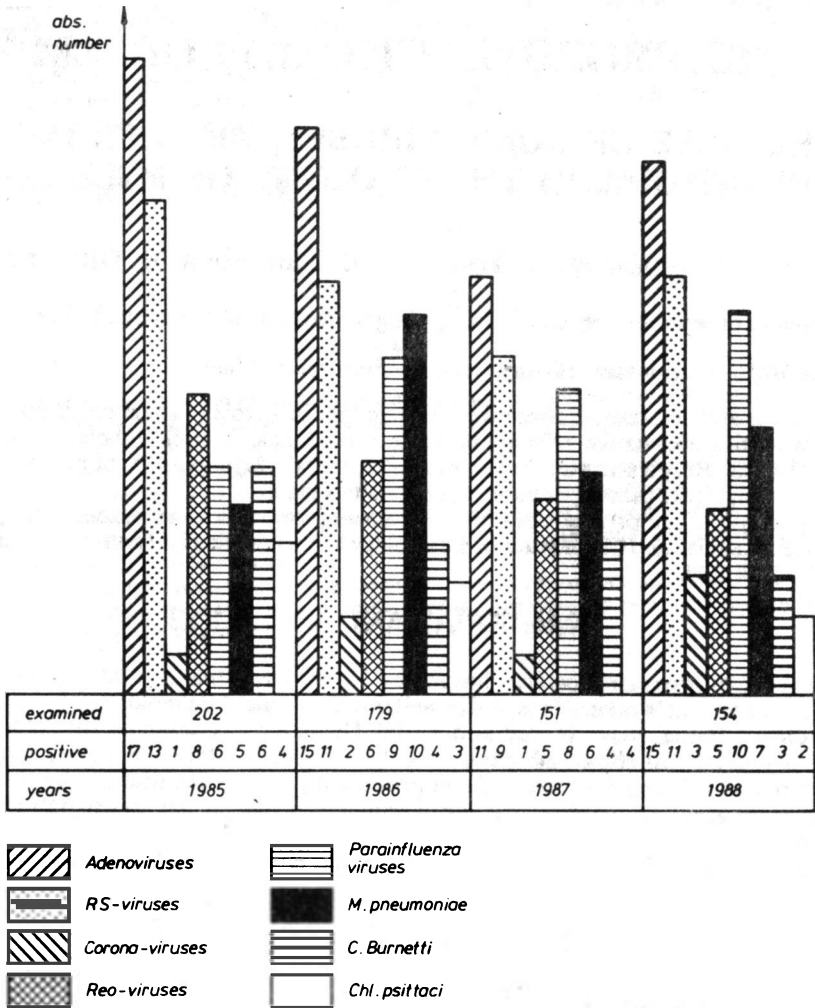


Fig. 1 Distribution of etiologically proved pneumoniae according to incidence rate during the period from 1985 till 1988

adenoviruses and RS-viruses as etiological factors of serologically proved pneumonia is highest in 1985. It stresses that there is a high percentage of Reo-virus pneumoniae followed by that of parainfluenza viruses and Coxiella Burnettii while Corona-virus pneumoniae come last. In 1986, there is high percentage of serologically proved Mycoplasma pneumoniae (5,58 per cent) followed by that of parainfluenza and Reo-virus ones. In 1987 and 1988, it strikes that there is a high percentage of pneumoniae caused by parainfluenza viruses, M. pneumoniae as well as the equal relative share of Reo-viruses. Corona-virus pneumoniae show the lowest percentage during this period.

Fig.2 demonstrates the relative share of etiological agents of pneumoniae during this period. We found out that out of a total of 32.65 per cent of pneumoniae proved, adenoviruses caused 8.45 per cent, RS-viruses - 6.41 per cent, parainfluenza viruses - 4.94 per cent but M. pneumonia

Table 1

Distribution of etiologically proved pneumonias according to number and percentage during the period from 1985 till 1988

Antigens	1985		1986		1987		1988	
	n	%	n	%	n	%	n	%
Years	n = 202		n = 179		n = 151		n = 154	
	positive sera		positive sera		positive sera		positive sera	
	n	%	n	%	n	%	n	%
Adenoviruses	17	8.41	15	8.37	11	7.28	15	9.74
RS-viruses	13	6.43	11	6.14	9	5.96	11	7.14
Corona viruses	1	0.49	2	1.11	1	0.66	3	1.94
Reo-viruses	8	3.96	6	3.35	5	3.31	5	3.24
Parainfluenza viruses	6	2.97	9	5.02	8	5.29	10	6.49
M. pneumoniae	5	2.47	10	5.58	6	3.97	7	4.54
C. Burnetti	6	2.97	4	2.23	4	2.64	3	1.94
Chl. psittaci	4	1.98	3	1.60	4	2.64	2	1.29

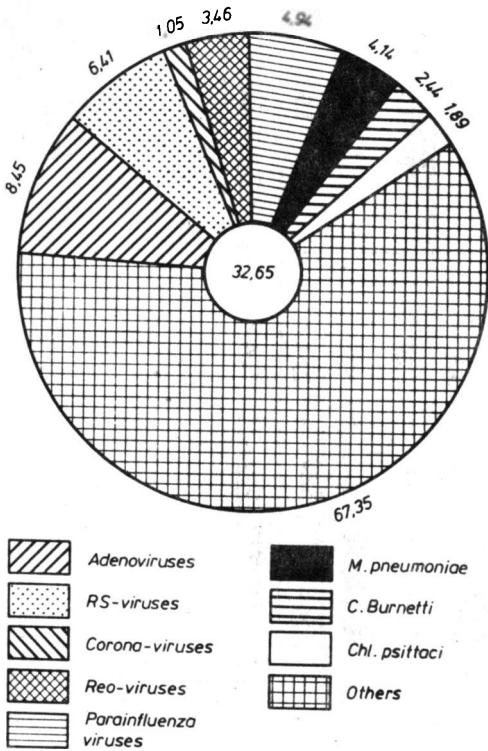


Fig. 2 Relative share of etiological agents of pneumoniae during the period from 1985 till 1988

- 4.14 per cent of the cases. Corona-viruses and Chlamydia psittaci possessed the lowest relative share in the etiology of pneumoniae.

CONCLUSION

Our data confirm similarly to our previous investigations and to data reported by other authors [1-8] the significance of virus infection in the etiology of respiratory diseases in Varna city. We establish that in 32.65 per cent out of 686 pneumonia patients diagnosed in 1985-1988 the disease can be considered a viral pneumonia without influenza virus participation. Adenoviruses and RS-viruses demonstrate the highest relative share but Corona-viruses and Chlamydia psittaci - the lowest one.

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РОЛЬ НЕКОТОРЫХ ВИРУСОВ, РИКЕТСИЙ И ХЛАМИДИЙ В ЭТИОЛОГИИ ПНЕВМОНИЙ

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РЕЗЮМЕ

Проведены разносторонние серологические исследования этиологии и эпидемиологии пневмоний в Варненском регионе в период с 1985 по 1988 год. Прослеживалась роль аденовирусов, респираторно-синцитиального вируса, парагриппозных вирусов, пневмококковой микоплазмы, коксвеллы барветти, хламидии пситаци и других. Общее число больных с диагнозом "пневмония" за этот период было 686. У одной трети из них (32.65 %) заболевание протекло как вирусная пневмония без участия гриппозного вируса. Наиболее высоким оказался удельный вес аденовирусов - 8.45 % и респираторно-синцитиального вируса (РС-вирус) - 6.41 %, а наиболее низким - корона вирусов и хламидии пситаци. Изучено ряд эпидемиологических закономерностей.