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abstract book

NON CULTURAL DIAGNOSTIC TECHNIQUES

PEUMO - SLIDE: serological investigation of Human Respiratory Infections

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Introduction: The use of serological methods is sometimes requested for elucidation of etiological agents of Human Respiratory Diseases (HRD). This particularly regards the microorganisms most frequently associated with atypical pneumonia. It is important the obtained results to be quick gained, reliable and comprehensive, and clinically useful. **Material and methods:** A total of 45 sera from patients (pts.) with diagnosis "bronchopneumonia" were examined with indirect immunofluorescent assay Pneumo - Slide (Vircell). This test is assigned for simultaneous detection of specific, total or IgM antibodies to the following 9 respiratory pathogens: *Legionella pneumophilla* serogrup1; *Mycoplasma pneumoniae; Coxiella burnetii; Chlamydia pneumoniae; Adenovirus; Respiratory Syncytial Virus; Influenza A; Influenza B; Parainfluenza* serotypes 1, 2, and 3. The assay procedure includes placing predilutet sera (according to manufacturer) on slides with 10 wells, each containing one of above-mentioned antigens. The conjugate consists purified goat anti-human globulin, labeled with FITC in an Evans Blue containing buffer. **Results:** Analysis of the obtained data pointed presumptive primo infection, determined by presence of specific IgM antibodies in 39pts. (86,6%). They were directed to only one antigen in 12pts. (30,7%), most frequently to *Influenza A virus* (4pts.) and *Coxiella burnetii*(3pts.). Simultaneous presence of specific IgM to 2,3, or 4 antigens was detected in 14(35,9%), 9(23,0%) and 4(10,2%) pts. respectively. The most often was contemporary presence of IgM to *Influenza A* and *Influenza B* viruses, in 27pts. (56,4%), out of total number of IgM positive sera.. Absence of IgM antibodies to all 9 antigens was determined in 6 pts. (13,3%), and 3 of them were also negative for total antibodies. Total antibodies were detected in 34 pts. (75,5%). Most often, in 16 of them (47,0%), the antibodies were detected towards 2 antigens, mainly *Chlamydia pneumoniae* and *Influenza B virus* (7pts.). Total antibodies to only one antigen were determined in 11 pts.(32,3%), mostly to *Influenza B virus* (4pts.), and to 3 or 4 antigens in 4(11,7%) and 3(8,8%) pts., respectively. **Conclusion and Discussion:** Our humble experience points that Peumo-Slide assay enables useful information regarding the etiology and time the infection happened, according to the specificity and class of detected antibodies. The interpretation of obtained data is highly dependent of : the period the sera were collected versus time the symptoms of the illness started; complete anamnestic and clinical investigations; season of the year and the prevalence of some diseases in specific areas. Concerning all above mentioned we recommend application of this assay for diagnostic purposes, as well as for screening of contact prevalence in the population with these respiratory pathogens.

PNEUMO - SLIDE: Serological investigation of human respiratory infections

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Why serology?

- Some human pathogens are difficult to be isolated or cultivated
- There is allways a need of quick, comrehensive, clinically usefull informations:

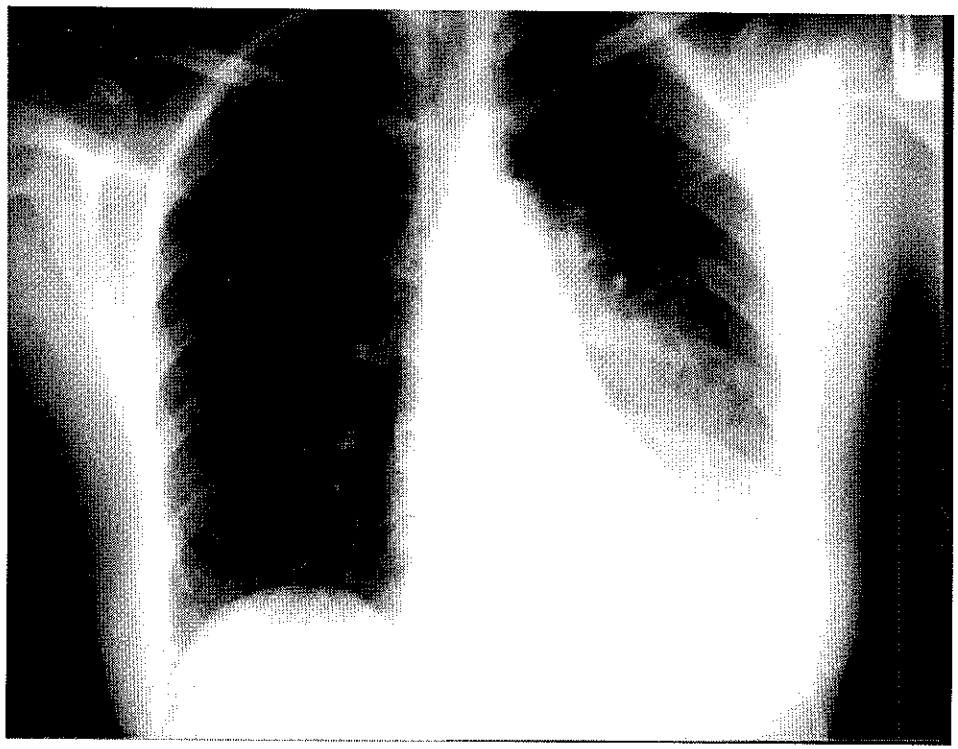
- presence / abscence of specific antibodies
- class and titer of detected antibodies

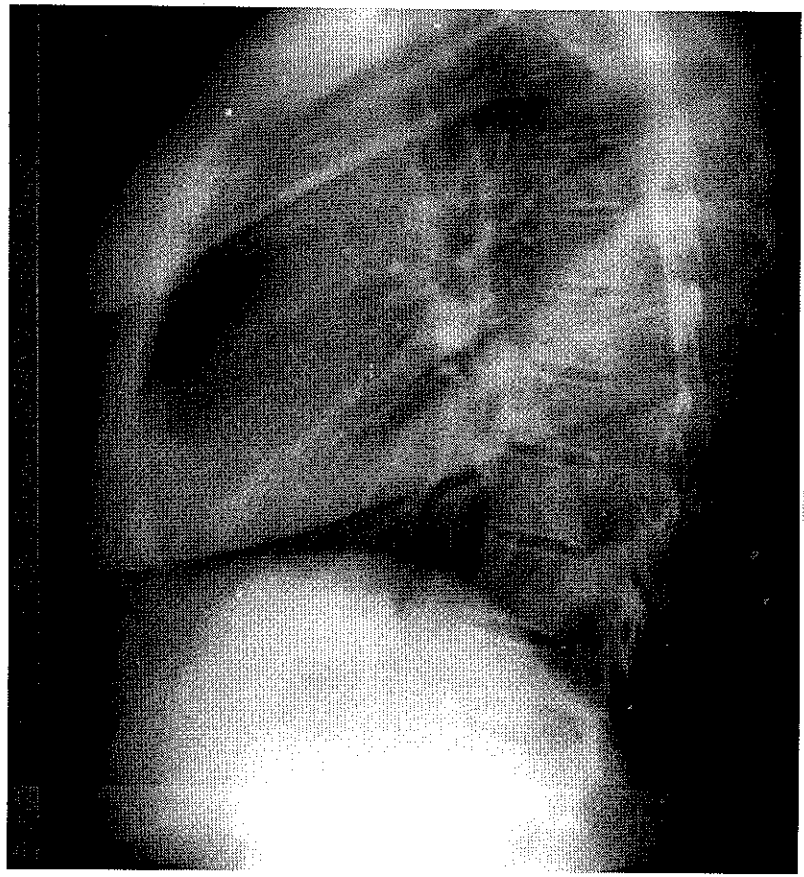
Objective

The aim of this study was
to determine the clinicall usefulness
of data gained by Peumo - Slide assay
for diagnostic or screening purposes
of human respiratory diseases.

Material

A total of 45 single serum samples from patients with diagnosis "Bronchopneumonia" were examined.



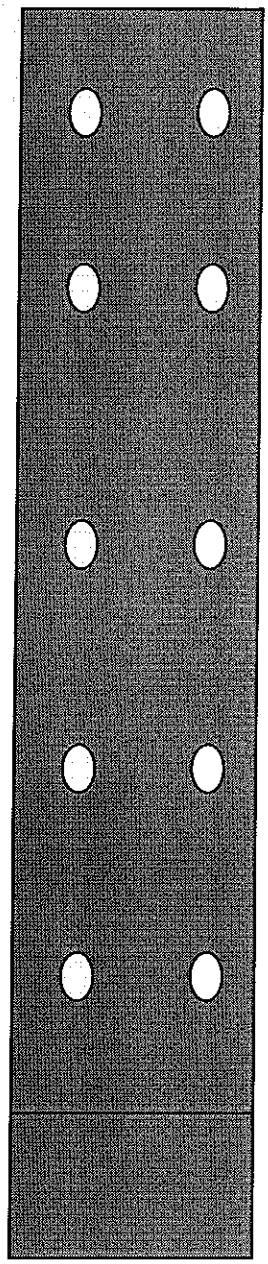


Method

Indirect immunofluorescent assay Pneumo - Slide (Vircell)

Enables simultaneous detection of Total or/and IgM antibodies towards:

4 bacterial Ag 5 viral Ag



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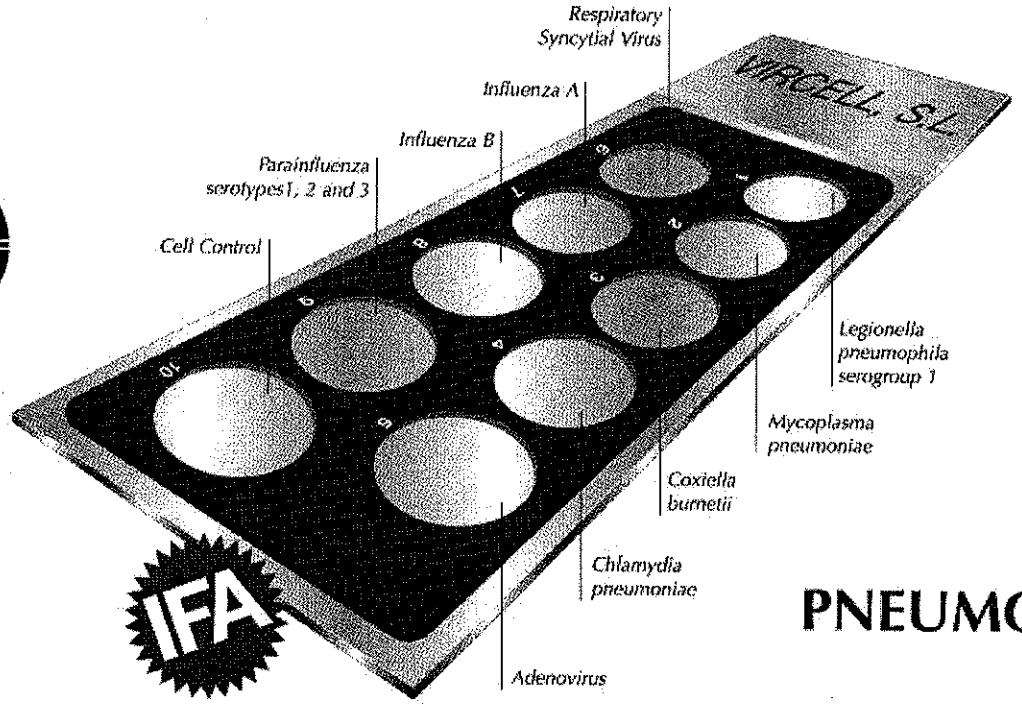


PNEUMO-SLIDE

Principle of the test

Step 1:
Hounting antibodies
in sera apropriately
prediluted

- for total Ab:
  1/128; 1/256

- for IgM Ab: 1/6

Step 2:
Visualisation
of captured Ab with:

goat antihuman Ig
towards total or IgM Ab

+

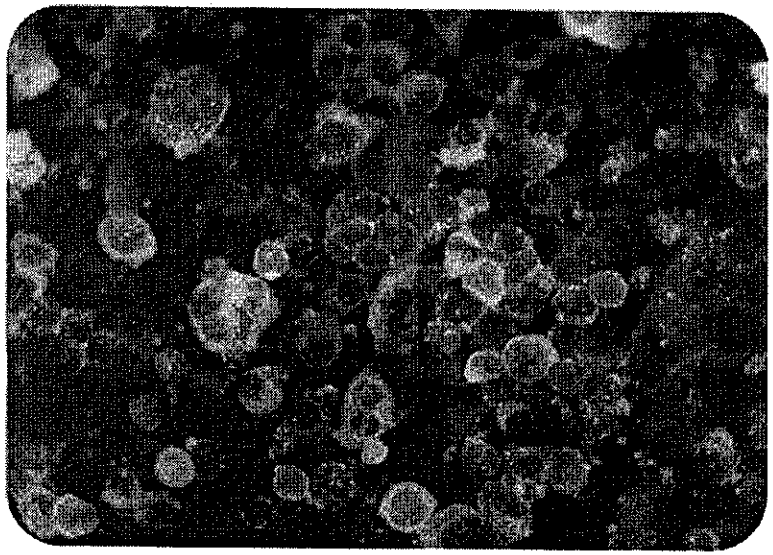
FITC

Interpretation of results

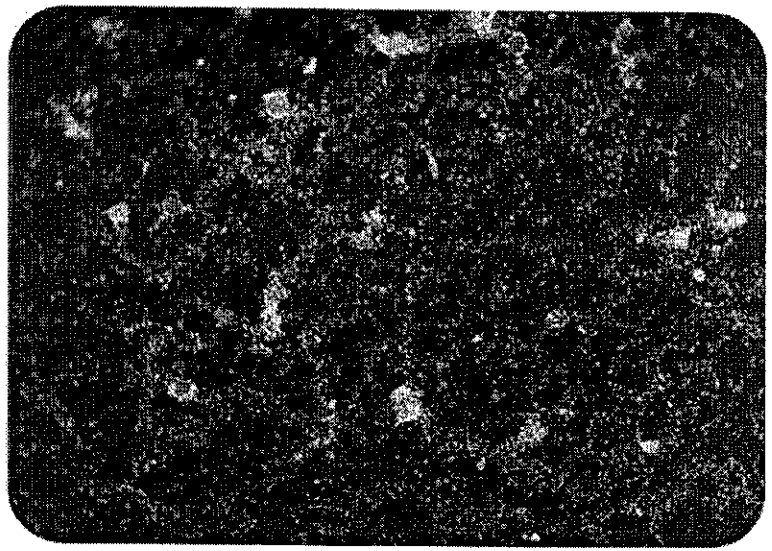
- "+" reaction: 25 - 50 % of infected cells or bacteria exhibit fluorescence.

- "-" reaction: no fluorescence, or red counterstained cells.

Single test



Respiratory Syncytial Virus



Chlamydia pneumoniae

Results
Presence of IgM antibodies

Fig.1

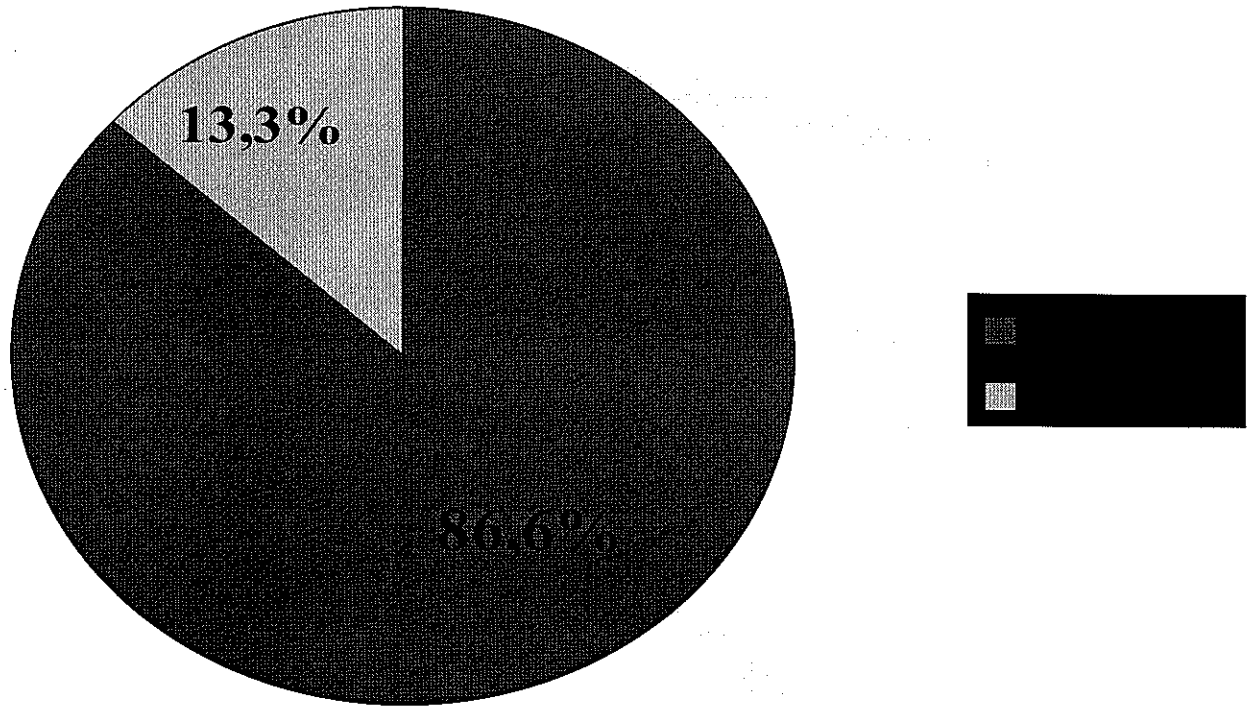
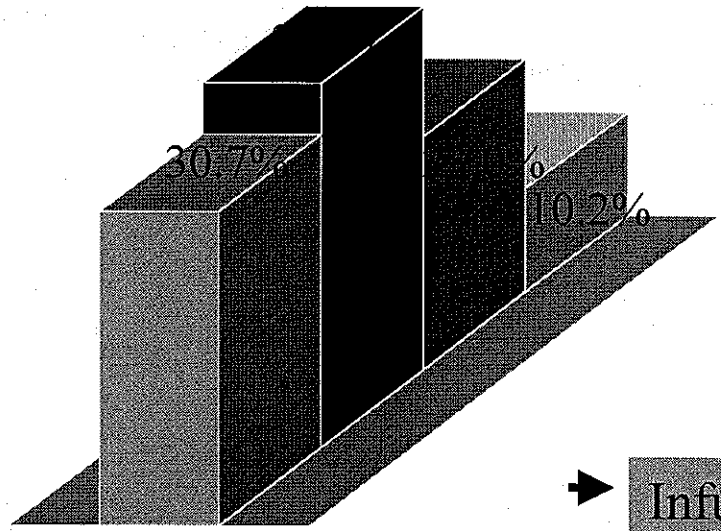


Fig.2: Detected specific IgM antibodies



Infuenza A- 4 pts

Coxiella burnetii- 3 pts

Most common combination of two different IgM antibodies

- Influenza A
- Influenza B

} 27 pts/56.4%

Fig.3: Totall antibodies

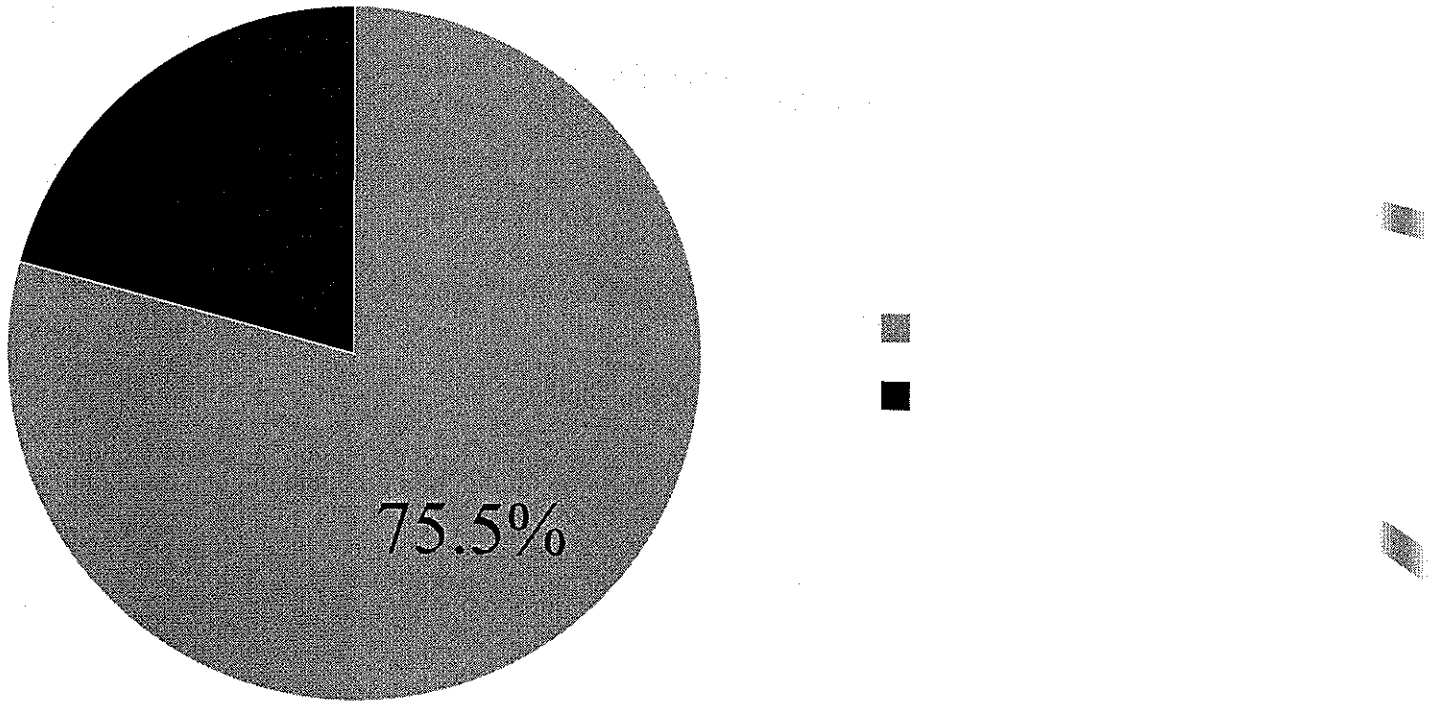
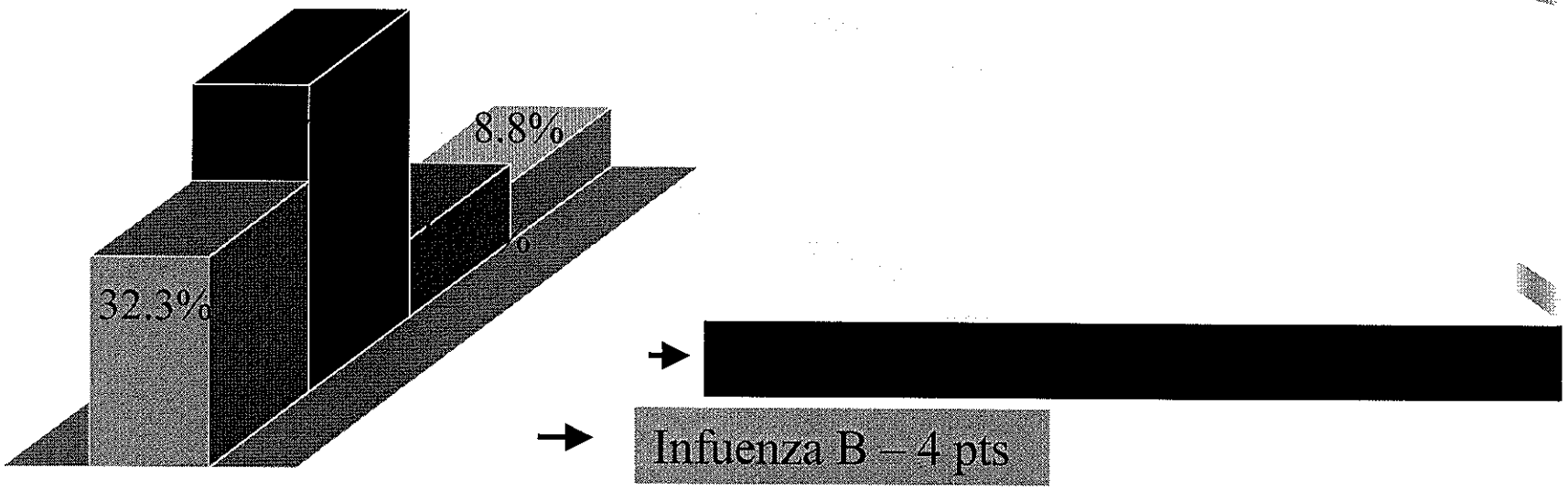


Fig.4: Detected specific totall antibodies



Conclusion and discusion

When interpretating the data allways consider:

- time of collecting vs. time of symptom manifestation
- complete anamnestic + clinical findings
- season of the year
- prevalence in specific areas

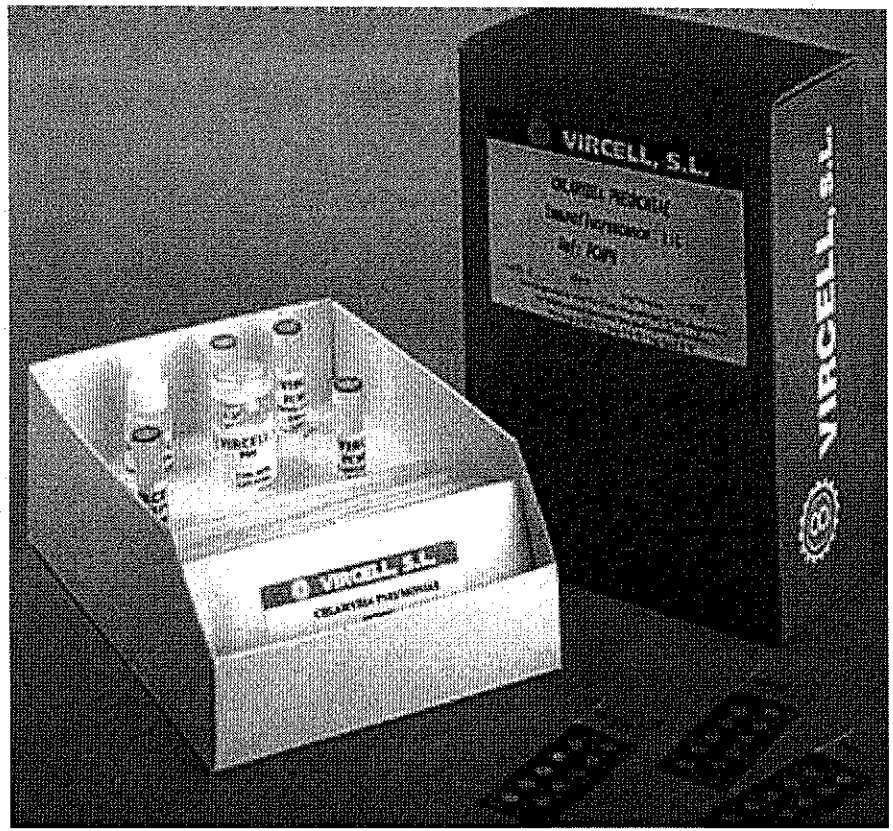
What about Pneumo-Slide?

The assay provides usefull informations

- about the ethiology
(presence of specific Ab.)

- about the time infection took place
(class of the present Ab.)

Our experience?



We reccomend this assay

- for diagnostic purposes

  as well
- for screening of contact prevalence