

Ultrasound studies on Mycoplasma bronchopneumonia

Clelia Tripaldi¹, Marella Polito², Onofrio Iacoviello³, Vincenzo Basile¹, Teresa De Bellis¹, Maria Fortunato¹, Francesca Laforgia¹, Mariangela Rubino¹, Egisto Scalini¹, Maria Silletti¹, and Ignazio Lofù¹

¹Hospital of Monopoli

²Training Course in General Medicine, Bari Medical Association, Italy

³University of Bari

November 3, 2020

Abstract

Abstract Background: Pediatric bronchopneumonia represents a clinical challenge, especially when it comes to the identification of its etiology. **Study design:** We performed a retrospective study on 100 patients admitted to our pediatric department. Only patients with bronchopneumonic consolidations were selected, discharged with a diagnosis of Community-Acquired Pneumonia (CAP) or bronchopneumonia. The purpose of our study was to identify Mycoplasma pneumoniae based on lung ultrasound (LUS) findings. **Methodology:** At least two lung LUS were performed on each patient: on admission and few days after start of therapy, with some patients undergoing a third ultrasound evaluation approximately one week after discharge. These reports were collected for each patient together with clinical and laboratory data. The study population was divided into two groups: patients who tested positive for Mycoplasma pneumoniae (Myc-CAP) and negative ones (non-Myc-CAP). All patients performed serological test for determination of anti-mycoplasma antibodies, and in doubtful cases also molecular test with PCR on pharyngeal exudate. **Results:** The results obtained after statistical analysis showed no significant differences in LUS findings between the two groups, that could allow a positive differential diagnosis of Myc-CAP without resorting to laboratory testing. **Conclusions:** LUS undoubtedly represents a valid and irreplaceable help in the morphological study of pulmonary lesions over the course of disease from the time of admission to follow-up.

Ultrasound studies on Mycoplasma bronchopneumonia

Tripaldi Clelia¹, Polito Marella², Iacoviello Onofrio³, Basile Vincenzo¹, De Bellis Teresa¹, Fortunato Maria¹, Laforgia Francesca¹, Rubino Mariangela¹, Scalini Egisto¹, Silletti Maria¹, Lofù Ignazio¹

¹ Department of Pediatrics, “S. Giacomo” Hospital, Monopoli (Bari), Italy

² Specific Training Course in General Medicine, Bari Medical Association, Italy

³ School of Pediatrics, University of Bari “Aldo Moro”, Bari, Italy

Key words: lung ultrasound, pneumonia, Mycoplasma, children

Funding source: none reported

Competing interests: the authors declare that they have no competing interests.

Corresponding author: Clelia Tripaldi, Department of Pediatrics, San Giacomo Hospital, Largo Simone Veneziani 21 - 70043 Monopoli, Italy

e-mail: clelia.tripaldi@libero.it

Hosted file

3. abstract.pdf available at <https://authorea.com/users/372501/articles/490518-ultrasound-studies-on-mycoplasma-bronchopneumonia>

Hosted file

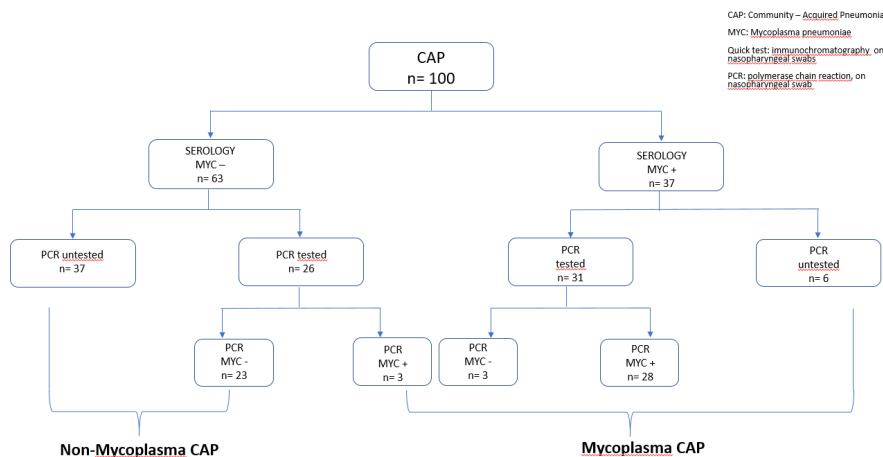
4. main text.pdf available at <https://authorea.com/users/372501/articles/490518-ultrasound-studies-on-mycoplasma-bronchopneumonia>

Hosted file

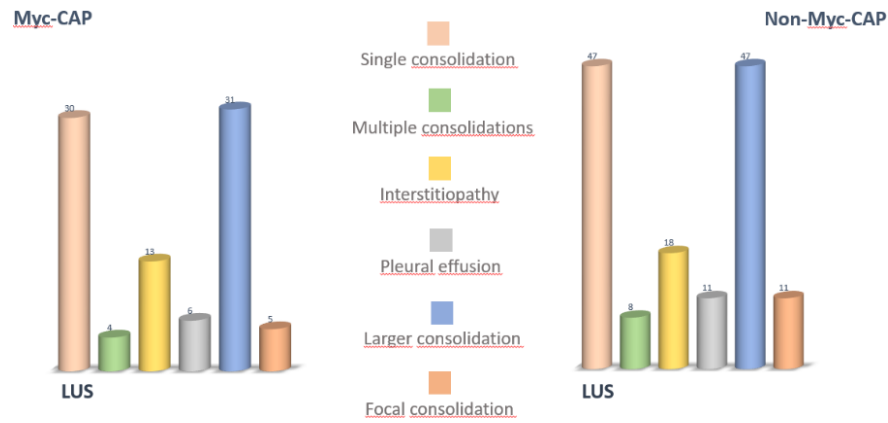
8. bibliography.pdf available at <https://authorea.com/users/372501/articles/490518-ultrasound-studies-on-mycoplasma-bronchopneumonia>

Finding	n°/total cases	Mycoplasma CAP	Non-mycoplasma CAP	p value	Odds ratio (95% CI)	PPV	NPV
Fever	89	37 (42%)	52 (58%)	0,52	1,90 (0,47-7,64)	42%	73%
Dyspnea	27	10 (37%)	17 (63%)	0,82	0,84 (0,34-2,09)	37%	59%
Cough	90	36 (40%)	54 (60%)	1,00	1,00 (0,26-3,79)	40%	60%
Rhonchi	18	6 (33%)	12 (67%)	0,603	0,71 (0,24-2,67)	33%	59%
Rales	56	24 (43%)	32 (57%)	0,543	1,31 (0,58-2,95)	43%	64%
Wheezing	8	2 (25%)	6 (75%)	0,471	0,47 (0,09-2,47)	25%	59%
Diminished breath sounds	16	10 (63%)	6 (37%)	0,045	3,00 (0,99-9,07)	63%	64%
Normal findings	17	4 (24%)	13 (76%)	0,18	2,49 (0,75-8,28)	24%	57%
Total							
Number of subjects	100	40 (40%)	60 (60%)				
Males	44	21 (48%)	23 (52%)				
Females	56	19 (34%)	37 (66%)				
Median [IQR]							
Age (years)	4,8 [5,3]	5,6 [6,8]	3,7 [3,6]				

STRATIFICATION OF PATIENTS BASED ON ETIOLOGY



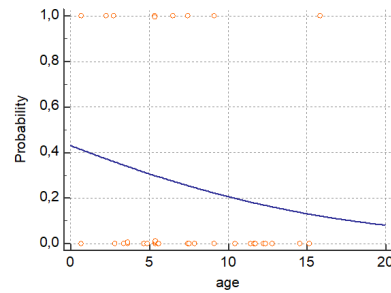
COMPARISON OF LUS FINDINGS: MYC-CAP VS Non-MYC-CAP



Mycoplasma CAP



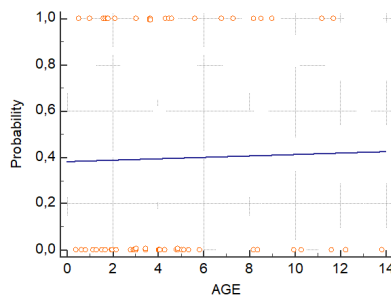
CORRELATION
BETWEEN AGE AND
SIZE OF LUNG
CONSOLIDATIONS

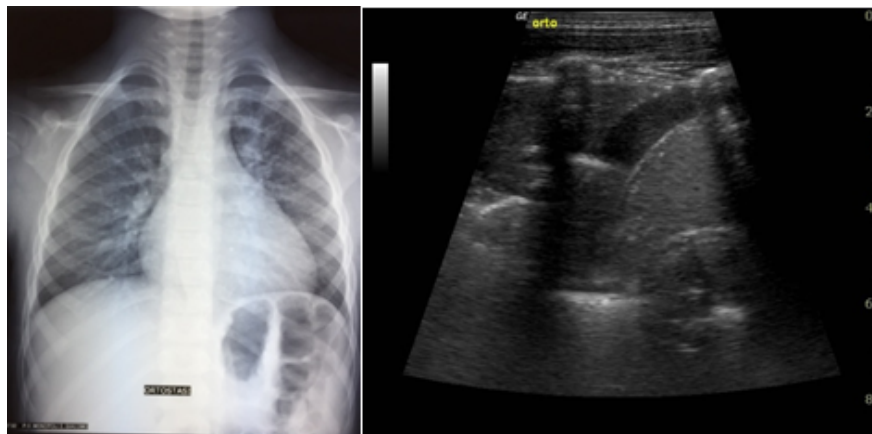


Non-Mycoplasma CAP



CORRELATION
BETWEEN AGE AND
SIZE OF LUNG
CONSOLIDATIONS





Hosted file

7. tables.pdf available at <https://authorea.com/users/372501/articles/490518-ultrasound-studies-on-mycoplasma-bronchopneumonia>