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KORPATH

Respira-ID Case Review

- **Patient History: 2-Year-old female**

- **Disease State/Symptoms: Child presented with cough and fever. Prior to office visit, she was taken to ER for respiratory distress. Flu and rapid strep testing were negative; 2 chest x-rays (1 unremarkable and 1 showed "inflammation" per mother); urine testing was negative. Rapid strep was sent out for culture and results were pending at time of office visit. She was given oral prednisone and nebulized albuterol at the ER. Sent home with prescription for nebulized albuterol.**

- **Why This Test was Ordered: Patient had now had a fever for 6 days. Temp up to 105. There was confirmed otitis media of left ear along with acute Upper Respiratory Infection. Respira-ID results indicates high levels of haemophilus influenzae, RSV, and Strep pneumoniae (split evenly at 32.356% each).**

- **Outcome: Child was prescribed Augmentin per PharmD recommendations. Improved within 48 hours.**

****FOR INTERNAL USE ONLY****

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Respira-ID™
Molecular Pathogen Report

645 Meeting Street; Suite 8
Charleston, SC 29403
P: 854.429.1069 • F: 833.247.4091
www.vikorscientific.com

CAP ACCREDITED #8359749

CLIA #42D2150400

Patient Name	Date of Birth	Gender	Race
	XX-XX- 2017	unknown	OTHER

Facility Information

Ordering Provider:

Facility:

Facility Phone:

Facility Fax:

Specimen Information

ACC:

Collection Date: 01/20/2020

Report Date: 01/22/2020

Received Date: 01/22/2020

Sample Type: Nasopharyngeal Swab

Notes:

PATHOGENS DETECTED

Haemophilus influenzae	1 x 10^7 Cells/mL	32.256%
Respiratory Syncytial Virus A & B	1 x 10^7 Cells/mL	32.256%
Streptococcus pneumoniae	1 x 10^7 Cells/mL	32.256%
Moraxella catarrhalis	1 x 10^6 Cells/mL	3.226%
Human herpesvirus 6 (HHV6)	1 x 10^3 Cells/mL	0.003%
Staphylococcus aureus	1 x 10^3 Cells/mL	0.003%
Adenovirus 1 & 2 Alpha	1 x 10^2 Cells/mL	0%

RESISTANCE GENES DETECTED & POTENTIAL MED CLASS AFFECTED

TEM, TEM E102K, TEM R162S, TEM G238S	Beta-lactam
ermB	Macrolides
SULL, DFRA	Bactrim

ABXAssist™ Pharmacy Guidance

Electronically approved on 01/23/2020 by: David Kelley • Email: pharmconsult@vikorscientific.com • Phone: 1.888.964.2141

MEDICATION REVIEW

Drug Allergies:	NKDA
Notes from Ordering Physician:	NASOPHARYNGEAL
Notes from Pharmacist:	Per IDSA guidelines: No antibiotic therapy is recommended at loads below 10^4 in adults. Please use your best clinical judgement as to when to treat. Low detection of pathogens or organisms may not be a definite sign to treat with antibiotics, the clinician will need to assess the patient based on other clinical findings. The viral load requires no ABX treatments. The RSV treatment is hydration fluids, acetaminophen (10-15 mg/kg q6h prn pain or fever, max daily dose 2000 mg), or ibuprofen (10 mg/kg q6h prn fever or pain) and breathing treatments to help any airway inflammation. DO NOT USE ASPIRIN. At this young age, constant monitoring is required and hospitalization may be necessary. The treatment recommendations below cover the Streptococcus, Moraxella, and Haemophilus organisms.

Medication	Route	Dose

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FIRST LINE	Amoxicillin / Clavulanate	oral	90-100 mg/kg/day divided q12h x 7-10 days
	OR		
	cefdinir	oral	14 mg/kg/day divided or QD x 7-10 days (max 600 mg/day)
	OR		
	Ceftriaxone	intramuscular	50mg/kg/IM once daily up to 3 dose max (1g max)

Methodology

The infectious disease and antibiotic resistance detection panels are tested utilizing Real-time PCR technology to detect the presence of genes associated with pathogens and antibiotic resistance via amplification of genomic DNA. Amplification and detection are performed using the Applied Biosystems™ QuantStudio™ 12K Flex Real-time PCR system, which includes the QuantStudio™ 12k Software v1.3 and Thermo Fisher Scientific TaqMan™ assays. The assays are preloaded onto TaqMan™ OpenArray plates.

Limitations

This test only detects microorganisms and antibiotic resistance (ABR) genes specified in the panel. ABR genes are detected in the specimen and are not specific to a detected pathogen. ABR genes may be detected in bacterial strains not tested for in the panel.

Disclaimer

This test was developed and its performance characteristics determined by Vikor Scientific™. It has not been cleared or approved by the FDA. The laboratory is regulated under CLIA as qualified to perform high complexity testing. This test is used for clinical purposes. It should not be regarded as investigational or for research.

The treatment guidance listed in the report is based on infectious disease treatment references, the organisms detected, and genes known to contribute to medication resistance. Important clinical information such as comorbidities, renal function, patient weight, platelet count, microbiology results, etc. may influence the overall appropriateness of therapy. The provided guidance only takes drug allergies into account when they are provided and available to the pharmacist making the recommendation. The overall appropriateness of therapy must be determined by the physician treating the patient. The provider has all the patient information necessary to make that determination and should take the entire clinical presentation into account when making treatment decisions. Should the treating physician wish to discuss the provided guidance, the pharmacist is available for consult at the email and phone number provided.

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NEGATIVE PATHOGENS
Aspergillus fumigatus
Adenovirus 1 & 2 Beta
Bordetella pertussis
Bordetella (PAN)
Chlamydophila pneumoniae
Coronavirus HKU1
Coronavirus NL63
Coronavirus OC43
Enteroviruses_D68
Influenza A virus (Pan)
Influenza B virus
Human Bocavirus (HBoV)
Varicella zoster virus (VZV) (HHV3)
Epstein-Barr virus (EBV) (HHV4)
Cytomegalovirus (CMV) (HHV5)
Human metapneumovirus
Parainfluenza virus 1
Parainfluenza virus 2
Parainfluenza virus 3
Parainfluenza virus 4
Klebsiella pneumoniae
Legionella pneumophila
Mycobacterium avium complex (MAC)
Mycoplasma pneumoniae
Epidemic Parotitis (Mumps)
Pseudomonas aeruginosa
Streptococcus agalactiae
Streptococcus pyogens

NEGATIVE RESISTANCE GENES	ANTIBIOTIC CLASS
CTX-M, PER-1, PER-2, VEB, blaNDM-1, OXA-1, GES, BlaSHV	Beta-lactam
VanB, VanA1, VanA2	Vancomycin
ermC, ermA	Macrolides
OXA-23, OXA-40, OXA-58, OXA-72, IMP-16, NDM, blaOXA-48, OXA-48, KPC, VIM, IMP-7	Carbapenems
mecA	Methicillin
tetM	Tetracycline
ampC, ACC, DHA, ACT/MIR	Ampicillin
mcr-1	Polymixins
QnrB, Gyrase A D87N_GTT, Gyrase A S83L_TGG, QnrA	Quinolones
aac6-1b/aacA4, ant(3), aph(A6), aac6-1b-cr	Aminoglycosides