



Nail-ID Case Review

- **Patient History:**
 - 24 y/o female came in as a first-time patient,
 - Patient has just had failed treatment with Lamisil (terbinafine) topical, prescribed by a non-affiliated podiatric office.

- **Disease State:**
 - symptoms of Tinea unguium on the foot.

- **Why This Test was Ordered:**
 - Current provider identified patient for Vikor Scientific Nail-ID to detect the causative pathogen(s) and resistance
 - Prior failed treatment

- **Outcome:**
 - Pseudomonas aeruginosa: 10^4
 - Peptostreptococcus prevotii, anaerobius asaccharolyticus, magnus: 10^4
 - Candida albicans, glabrata, tropicalis, parapsilosis: 10^2
 - Staphylococcus aureus: 1×10^2 copies/uL
 - ARG: Macrolides, Methicillin and Tetracycline
 - Due to the potential seriousness of Pseudomonas infection, treatment should be aggressive and monitored closely for treatment effectiveness. Candida: Low load detection. Clinician discretion whether to treat or not Fluconazole 150-300mg q week x6-12 mo (until complete normal nail growth)
 - Patient prescribed with Fluconazole oral
 - Patient is currently in treatment process with Fluconazole and is actively healing.



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www.vikorscientific.com



Patient Name



Date of Birth

XX-XX-1996



Gender

F



Race

UNDISCLOSED

Facility Information

Ordering Provider:

Facility:

Facility Phone:

Facility Fax:

Specimen Information

ACC:

Collection Date: 06-16-2021

Received Date: 06-18-2021

Notes:

Report Date: 06-18-2021

Sample Type: Nail Shavings

Laboratory Results

PATHOGENS DETECTED

Pseudomonas aeruginosa	1 x 10 ⁴ copies/uL	49.505%
Peptostreptococcus prevotii, anaerobius, asaccharolyticus, magnus	1 x 10 ⁴ copies/uL	49.505%
Candida albicans, glabrata, tropicalis, parapsilosis	1 x 10 ² copies/uL	0.495%
Staphylococcus aureus	1 x 10 ² copies/uL	0.495%

RESISTANCE GENES DETECTED & POTENTIAL MED CLASS AFFECTED

ermC	Macrolides	
mecA	Methicillin	
tetM	Tetracycline	

ABXAssist™

Pharmacy Guidance Provided by:



Electronically approved on 06-19-2021 by: Tamar Momo

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Drug Allergies:

NKDA

Notes from Ordering Physician:

Notes from Pharmacist:

Disclaimer: The treatment guidance listed 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, etc. may influence the overall appropriateness of therapy. The provided guidance only takes drug allergies into account when they are provided. The provider should take the entire clinical presentation into account when making treatment decisions. Not all detected microbes will require antimicrobial therapy as some are part of the normal flora or can be non-pathogenic colonizers.

Due to the potential seriousness of Pseudomonas infection, treatment should be aggressive and monitored closely for treatment effectiveness.

Candida: Low load detection. Clinician discretion whether to treat or not
Fluconazole 150-300mg q week x6-12 mo (until complete normal nail growth)

MEDICATION REVIEW

	Medication	Route	Dose
FIRST LINE	ciprofloxacin	oral	500mg BID x 7-14 days
	Considerations: Covers pseudomonas and peptostrep.. Fluoroquinolones have been associated with serious and possible irreversible reactions; tendonitis/tendon rupture, peripheral neuropathy, CNS effects. These may occur all together or months after tx. Increased risk in patients over 60 and pts on corticosteroids. Avoid in Myasthenia Gravis. Adjust dose for CrCl <50ml/min.		
SECOND LINE	levofloxacin	oral	750mg daily
	Considerations: Covers pseudomonas and peptostrep.. Fluoroquinolones have been associated with serious and possible irreversible reactions; tendonitis/tendon rupture, peripheral neuropathy, CNS effects. These may occur all together or months after tx. Increased risk in patients over 60 and pts on corticosteroids. Avoid in Myasthenia Gravis. Adjust dose for CrCl <50ml/min.		
ALTERNATIVE	piperacillin / tazobactam	intravenous	4.5g q6h
	Considerations: Covers pseudomonas and peptostrep. Avoid in PCN allergy		



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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	<p>The resistance genes for Ampicillin, selected Extended-Spectrum-Betalactamases, Vancomycin, Carbapenems, Sulfonamide, Trimethoprim, Aminoglycosides and the Quinolone gyrase groupings are assays customized by pooling the individual genes listed in the associated group. If listed as positive, this indicates that at least one of the genes in the group was detected and the class of medication could have potential resistance.</p> <p>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. Pharmacy guidance and recommendations therein are not under the purview of the laboratory or agencies which accredit the laboratory.</p> <p>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.</p>



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NEGATIVE PATHOGENS

- Acremonium strictum
- Alternaria spp
- Blastomyces dermatitidis
- Candida dubliniensis, lusitanae, krusei, auris
- Cladosporium herbarum
- Curvularia lunata
- Enterobacter spp.
- Enterococcus faecalis, faecium
- Epidermophyton floccosum
- Fusarium solani, oxysporum
- HSV 1 and 2
- Herpes zoster virus (Varicella zoster virus)
- Klebsiella oxytoca, pneumoniae
- Microsporum audouinii, canis, gypseum, nanum
- Sarcoptes scabiei
- Scopulariopsis brevicaulis
- Scytalidium dimidiatum (Neoscytalidium)
- Streptococcus agalactiae
- Streptococcus pyogenes
- Trichophyton rubrum
- Trichophyton soudanense, violaceum
- Trichophyton tonsurans, interdigitale

NEGATIVE RESISTANCE GENES

- aac6-1b/aacA4, ant(3), aph(A6), aac6-1b-cr
- ampC, ACC, DHA, ACT/MIR
- SULL, DFRA
- PER-1, PER-2, VEB, blaNDM-1, OXA-1, GES, BlaSHV
- OXA-23, OXA-40, OXA-58, OXA-72, IMP-16, NDM, blaOXA-48, OXA-48, KPC, VIM, IMP-7
- TEM, TEM E102K, TEM R162S, TEM G238S
- CTX-M
- ermB, ermA
- mcr-1
- QnrB, Gyrase A D87N_GTT, Gyrase A S83L_TGG, QnrA
- VanB, VanA1, VanA2

ANTIBIOTIC CLASS

- Aminoglycosides
- AmpC beta lactamase
- Bactrim
- Beta-lactams
- Carbapenems
- Class A Beta-lactams
- ClassA Beta-lactamases
- Macrolides
- Polymyxins
- Quinolones
- Vancomycin