Cladophialophora bantiana case report form

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Form completion data
Thank you for filling out this online case report form for a confirmed (a culture or molecular-confirmed C. bantiana infection diagnosed on or after January 1, 2020) or probable (*Cladophialophora* genus-level infection presenting as brain abscess identified via molecular or culture) case of *Cladophialophora bantiana*. We greatly appreciate the time you are taking to share this information with us. Please note this form should be filled out by clinical providers or public health professionals. This form does not serve as a clinical consultation request. If you need help with a clinical inquiry in a time-sensitive manner, please email the CDC at fungalconsult@cdc.gov. Consent to participate We are collecting this data to inform public health response efforts and deepen our understanding of *Cladophialophora bantiana* infections. Information submitted through this form may be disseminated in aggregate to public health officials and researchers and in academic publications. Individual entries will be stored securely and will only be accessible by relevant public health authorities, if needed. We do not collect patient identifiers and will not make public any individual-level or identifiable data collected. If you have any questions about this investigation, please contact us at fungaloutbreaks@cdc.gov. I acknowledge the above and wish to complete the case form [ ] Yes (go to question 1) [ ] No (thank you message, exit survey) SUBMITTER CONTACT Submitter information (Please note, this information will not be included in final dataset but may be used prior to analysis to query missing data or in manuscript preparation). Submitters will be included in by-line or group authorship on future publications. Submitter first & late name: _____ Email: _____ Phone: _____ Agency/Organization: _____

Patient demographics (PRIORITY) *In this section, please answer patient demographic at the time the patient was diagnosed with C. Bantiana*	
State/Local ID (not required)	
Date of Initial Incident Specimen Collection (DISC)	__ __ /__ __ / __ __ __ __ M M D D Y Y Y Y
Date Form Completed	__ __ /__ __ / __ __ __ __ M M D D Y Y Y Y
Age at DISC: (use months or days if patient was aged <1 year)	_____ □ Years □ Months □ Days □ Unknown
Sex	□ Male □ Female
What is the patient's ethnicity?	□ Hispanic or Latino □ Not Hispanic or Latino
What is the patient's race? (select all that apply)	□ American Indian or Alaska Native □ Asian □ Black or African American □ Native Hawaiian or Pacific Islander □ White
Patient's country of residence (e.g., USA)	_____ □ Unknown
Patient's state, jurisdiction, or territory of residence	_____ □ Unknown
Patient's county of residence	_____ □ Unknown
Healthcare facility zip code where incident specimen was collected	_____ □ Unknown
Healthcare facility type where incident specimen was collected	□ Acute care hospital (ACH) □ Long-term acute care hospital (LTACH) □ Skilled nursing facility *with* ventilated residents (vSNF) □ Skilled nursing facility *without* ventilated residents (SNF) □ Outpatient □ Postmortem collection by medical examiner, coroner, or forensic pathologist □ Unknown □ Other _____

Patient underlying risk factors & medical conditions present during the 2 years before DISC (unless other timeframe specified) (PRIORITY)

Cancer □ Yes □ No □ Unknown
- □ Active □ Remission (check all that apply)
- □ Hematologic malignancy (e.g., leukemia, lymphoma, myeloma)
  specify type: _____
- □ Solid organ malignancy
  specify type:_____
- □ Chemotherapy
  If yes, specify: _____

HIV infection □ Yes □ No □ Unknown
If yes, choose one of the below
CD4 < 200 cells/mm^3 within 6 months before DISC
□ Yes □ No □ Unknown

Chronic pulmonary diagnosis □ Yes □ No □ Unknown
- □ Chronic obstructive pulmonary disease (COPD) or emphysema
- □ Bronchiectasis
- □ Cystic fibrosis
- □ Allergic bronchopulmonary aspergillosis (ABPA)
- □ Pulmonary fibrosis
- □ Asthma
- □ Interstitial Lung Disease
- □ Other chronic pulmonary diagnosis (specify):_____

Positive respiratory viral test in **90 days before DISC**
□ Yes □ No □ Unknown

If yes, (select all that apply):
- □ SARS-CoV-2 (PCR or antigen test)
  □ antigen □ PCR □ unknown test type
- □ Influenza
- □ RSV

□ Other respiratory virus (specify) _____

Transplant
□ Yes □ No □ Unknown

□ Solid organ transplant:
□ Lung □ Heart □ Kidney □ Pancreas □ Liver □ Skin graft □ Other:_____

□ Hematopoietic stem cell transplant (HSCT)

Other selected conditions: □ Yes □ No □ Unknown
- □ Cardiovascular disease
  (specify): _____
- □ Connective tissue disease
- □ Diabetes mellitus
- □ End stage renal disease
- □ Dialysis
- □ Autoimmune disease(s)
  (specify): _____
- □ inherited immunodeficiency(-ies)
  (specify): _____

- □ Medications/therapies that weaken the immune system
  - □ TNF-alpha inhibitors (e.g., infliximab, adalimumab, etanercept)
  - □ Other (specify):
    _____
- □ Cirrhosis
- □ Liver disease without cirrhosis
- □ Systemic lupus erythematosus
- □ Active tuberculosis
- □ Pregnant
  - □ Pregnant on DISC
    Gestational age (weeks):_____ Unknown
- □ Post-partum (gave birth within 6 weeks before DISC)
- □ Peptic ulcer disease
- □ Hemiplegia
- □ Sarcoidosis
- □ Substance Use Disorder (alcohol)
- □ Substance Use Disorder (all categories except alcohol)

Other potentially relevant clinical information?
_____
_____
_____
_____
_____

□ Smoking/vaping (ever), tobacco, cannabis, or other inhaled substances□ Nocardia pneumonia □ Chronic sinusitis	
Were corticosteroids given within the 90 days before DISC?	□ Yes □ No □ Unknown *If Yes*: Name of corticosteroid #1: ○ Prednisone ○ Methylprednisone ○ Dexamethasone ○ Prednisolone ○ Fluticasone ○ Budesonide ○ Other, specify:_____ Start date: - - (mm-dd-yyyy) End date: - - (mm-dd-yyyy) Dose: _____ Frequency: _____ Name of corticosteroid #2: ○ Prednisone ○ Methylprednisone ○ Dexamethasone ○ Prednisolone ○ Fluticasone ○ Budesonide ○ Other, specify:_____ Start date: - - (mm-dd-yyyy) End date: - - (mm-dd-yyyy) Dose: _____ Frequency: _____

Patient hospitalization	
Was the patient hospitalized at an acute care hospital in the 90 days before to 90 days after DISC?	□ Yes □ No □ Unknown *If yes:* Dates of hospitalization: Admission: _____-_____-_____ (mm-dd-yyyy) Discharge: _____-_____-_____ (mm-dd-yyyy) □ Still hospitalized Received ICU-level care in the 14 days *before* DISC?: □ Yes □ No □ Unknown *If yes, provide dates:* Start: _____-_____-_____ (mm-dd-yyyy) End: _____-_____-_____ (mm-dd-yyyy) Discharge ICD-10 diagnosis code(s): *Separate codes with semicolon (;)* _____ *Note: This is a repeating record in REDCap. Please add additional hospitalization +/- ICU dates as needed.*

Patient diagnosis and outcomes	
According to treating clinicians, which clinical syndrome(s) related to *Cladophialophora bantiana* did the patient have?	□ Brain abscess □ One abscess □ Multiple abscesses, specify number:_____ □ Lung infection □ Cutaneous/Subcutaneous infection:_____ □ Other disease/syndrome(s) related to *C. bantiana*: _____ □ *C. bantiana* was **not** believed to be causing clinical illness or is not mentioned in medical records □ Unknown
Prior to DISC, did the patient have symptoms that prompted them to seek medical care (i.e., chief complaint)?	□ Yes □ No □ Unknown *If Yes, select all that apply:* □ Altered mental status □ Confusion □ Unusual drowsiness or lack of energy (lethargy) □ Headache □ Dizziness □ Seizure

	□ Neck stiffness □ Lack of coordination or difficulty controlling voluntary movements (ataxia) □ Walking difficulty □ Muscle weakness or partial loss of strength on one side of the body (hemiparesis) □ Paralysis of one side of the body (hemiplegia) □ Difficulty speaking or understanding language due to a problem in the brain (aphasia) □ Difficulty speaking or slurred speech □ Blindness □ Blurred vision □ Double vision (diplopia) □ Buildup of fluid in the brain (hydrocephalus) □ Stroke □ Fever □ Nausea □ Vomiting □ Cough □ Chest pain □ Ear inflammation or infection (otitis) □ Sinus inflammation or infection (sinusitis) □ Arthritis □ Skin lesion □ Other, specify: _____
Was there an original working diagnosis before identification of *Cladophialophora bantiana* infection?	□ Yes □ No □ Unknown *If yes, select all that apply:* □ Brain abscess □ Abscess (not in brain) □ Primary brain tumor □ Metastatic cancer in the CNS (brain or spinal cord) □ Lung cancer □ Skin cancer □ Lymphoma □ Pneumonia □ Other brain infection, specify:_____ □ Other, specify: _____
Was surgical intervention performed for *Cladophialophora bantiana* infection (e.g., debridement, excision, drainage, etc.)?	□ Yes □ No □ Unknown *If Yes:* Date: _____ Location on Body: _____ Describe surgical intervention: _____
Did the patient die within 90 days after DISC?	□ Yes □ No □ Unknown *If Yes:* Date of death _____ - _____- _____ (mm-dd-yyyy) Is a death certificate available for review? □ Yes □ No *If Yes:* Cause(s) of death according to death certificate *List ICD-10 codes, separated by a semicolon (;)* _____

Laboratory Testing ***This is a repeated form in REDCap, please answer for all specimens used for C. bantiana diagnosis***	
How was the patient diagnosed with *Cladophialophara bantiana infection?*	Date of Specimen Collection: __ __ / __ __ /__ __ __ __ (MM/DD/YYYY) Select Laboratory Method: □ Culture *If Culture, type of identification:* □ Morphological □ Molecular □ Mass spectrometry □ Other, specify:_____ □ Unknown □ Molecular identification *If Molecular identification, specify type:* □ Species specific PCR □ Broad-range fungal PCR with sequencing □ Targeted fungal PCR with sequencing □ Next-generation/metagenomic sequencing □ Other, specify:_____ □ Unknown □ Histopathology/cytology *If Histopathology/cytology:* Results:_____ □ MALDI-TOF mass spectrometry □ Other testing method, specify:_____ Select Specimen Source: □ Brain tissue □ Brain abscess/fluid aspirate □ CSF □ Blood □ Respiratory specimen □ Skin/subcutaneous tissue □ Bone/joint specimen □ Other, specify:_____ □ Unknown
Which laboratory performed the testing?	**o** University of Washington, Molecular Diagnosis Microbiology Section **o** University of Texas at San Antionio, Fungus Testing Laboratory **o** ARUP laboratories **o** Other, specify:_____
Are antifungal susceptibility testing results available from an isolate of *Cladophialophora bantiana?*	□ Yes □ No □ Unknown
[If antifungal susceptibility testing is Yes] Please complete the following information:	Itraconazole (µg/mL):_____ Voriconazole (µg/mL):_____ Posaconazole(µg/mL):_____ Isavuconazole(µg/mL):_____ Amphotericin B (µg/mL):_____ Terbinafine (µg/mL):_____ Flucytosine (µg/mL):_____

	Fosmanogepix (µg/mL):_____ Olorofim (µg/mL):_____

Antifungal treatment: Did the patient receive antifungal drugs during the 90 days before to 90 days after the DISC? **(PRIORITY)**
□ Yes □ No □ Unknown
(If yes, please complete the table below for each drug received).

If Yes, Select one of the following to complete each row of the table

Amphotericin B lipid complex (ABLC)	Fluconazole (FLC)	Itraconazole (ITC)	Fosmanogepix (FOS)
Liposomal Amphotericin B (L-AmB)	Flucytosine (5FC)	Micafungin (MFG)	Olorofim (OLO)
Amphotericin B colloidal dispersion (ABCD)	Ibrexafungerp (IBR)	Posaconazole (PSC)	Other drug (specify):
Anidulafungin (ANF)	Isavuconazole (ISA)	Voriconazole (VRC)	_____
Caspofungin (CAS)		Terbinafine (TER)	Unknown drug (UNK)

Drug Abbrev	**Start date** (*mm-dd-yyyy*)	**End date** (*mm-dd-yyyy*)
	___ ___ - ___ ___ - ___ ___ ___ ___ □ Start date unknown □ Start date was >90 days before DISC	___ ___ - ___ ___ - ___ ___ ___ ___ □ Still on treatment at time CRF completed □ Stop date unknown
	___ ___ - ___ ___ - ___ ___ ___ ___ □ Start date unknown □ Start date was >90 days before DISC	___ ___ - ___ ___ - ___ ___ ___ ___ □ Still on treatment at time CRF completed □ Stop date unknown
	___ ___ - ___ ___ - ___ ___ ___ ___ □ Start date unknown □ Start date was >90 days before DISC	___ ___ - ___ ___ - ___ ___ ___ ___ □ Still on treatment at time CRF completed □ Stop date unknown
	___ ___ - ___ ___ - ___ ___ ___ ___ □ Start date unknown □ Start date was >90 days before DISC	___ ___ - ___ ___ - ___ ___ ___ ___ □ Still on treatment at time CRF completed □ Stop date unknown
	___ ___ - ___ ___ - ___ ___ ___ ___ □ Start date unknown □ Start date was >90 days before DISC	___ ___ - ___ ___ - ___ ___ ___ ___ □ Still on treatment at time CRF completed □ Stop date unknown

Patient/caregiver interview exposure form	
Throughout this interview, questions refer to the patient, even if someone else is completing the interview on the patient's behalf. *We believe the fungus that caused your illness may be found naturally in the soil and environment. Because this illness is rare, there is still a lot we do not know about how people are exposed to the fungus or how it causes illness. We would like to ask you some questions about your activities to help us better understand this disease and how people might be exposed to it.* *I am interested in past exposures and symptoms you [the patient] noticed before your [their] diagnosis on <Date of Incident Specimen Collection (DISC)> and what happened up to 90 days before the diagnosis, so this would be from <90 days prior to DISC> to <DISC>. It may be helpful to look at your calendar for reference.* *As a reminder, anything you share will not be identified back to you and will be kept confidential. You can skip any questions or stop at any time. If I ask a question that is confusing or doesn't make sense, please stop me and let me know.* *[Interviewer instructions: ask these as open-ended questions and probe with response options if needed]*	
Do you agree to participate in this interview?	□ Yes □ No
Relationship to the patient	□ Self □ Proxy, specify:_____ (e.g., caregiver, family member)
In the 90 days before you were tested, did you notice any new symptoms?	□ Yes □ No □ Unknown *If Yes, select all that apply:* □ Altered mental status □ Confusion □ Unusual drowsiness or lack of energy (lethargy) □ Headache □ Dizziness □ Seizure □ Neck stiffness □ Lack of coordination or difficulty controlling voluntary movements (ataxia) □ Walking difficulty □ Muscle weakness or partial loss of strength on one side of the body (hemiparesis) □ Paralysis of one side of the body (hemiplegia) □ Difficulty speaking or understanding language due to a problem in the brain (aphasia) □ Difficulty speaking or slurred speech □ Blindness □ Blurred vision □ Double vision (diplopia) □ Buildup of fluid in the brain (hydrocephalus) □ Stroke □ Fever □ Nausea □ Vomiting □ Cough □ Chest pain □ Ear inflammation or infection (otitis) □ Sinus inflammation or infection (sinusitis) □ Arthritis □ Skin lesion □ Other, specify: _____
[If new symptoms reported] Approximately when did the symptoms start?	_____
In the 90 days before you were tested, what best describes your employment	□ Employed □ A homemaker or stay-at-home parent □ Unable to work due to injury or disability □ Student □ Child □ Retired □ Unemployed □ Refused to answer □ Unknown

situation?	
[If employed is selected] In the 90 days before you were tested, what did you do for work?	_____
In the 90 days before you were tested, did you work outdoors?	□ Yes □ No □ Unknown If Yes, please describe outdoor work_____
If the 90 days before you were tested, was there a time when you did not have a regular place to stay?	□ Yes □ No □ UnknownPrefer not to answer If yes, where did you stay or sleep (check all that apply): □ House or apartment you owned or rented □ Staying with multiple friends/family for short period (“couch-surfing”) □ Shelter □ Transitional or temporary housing (for example, transitional housing, temporary supportive housing, or a halfway house) □ Vehicle □ Street/alley □ Park □ Abandoned or vacant building □ Hotel or motel □ Other, specify_____ □ Prefer not to answer
In the 90 days before you were tested, did you travel more than 100 miles or more than 2 hours away from home for any reason?	□ Yes, specify city/state/country/dates:_____ _____ _____ _____ □ No □ Don’t know
In the 90 days before you were tested, did you have any injuries that broke the skin, such as a cut, puncture, or open wound before your illness?	□ Yes If yes, please describe the site of injury on body (e.g., leg, arm): _____ If yes, please describe geographic location (e.g., city, state): _____ If yes, please describe material involved (e.g., thorns, branches): _____ If yes, please describe any weather events (e.g., hurricane, flood): _____ If yes, please indicate approximate date of injury (mm/dd/yyyy): _____ □ No □ Unknown
In the 90 days before you were tested, did you participate in any outdoor activities? [probe with examples if you don’t get much of a response or if responses are only about outdoor recreation]	□ Hunting □ Fishing □ Swimming □ Boating □ Visiting a lake or river □ Camping □ Hiking □ Mountain biking □ Off-road/ATV □ Road construction work □ Building construction □ Operation of earth moving equipment □ Farming

	□ Clearing/cutting wood □ Gathering natural products (berries, mushrooms, firewood) □ Gardening/landscaping If yes, exposure to: □ Mulch □Topsoil □ Compost □ Leaf blowing □ Collecting/transporting yard waste □ Live/hike near an excavation site □ Exposed to rotten wood/vegetation □ Wood/vegetation brought into home (e.g., for woodfire stove) □ Outdoor sports, specify □ Other outdoor activity, specify

Is there anything else that you can think of that we didn't talk about that may be related to your illness?

[If needed, we think this fungus may be found in the soil and environment. People may get sick if they breathe in fungal spores from the environment. For example, were you living, working, traveling, or spending time in areas with construction or other activities that disturb the soil? Please describe.]

_____

Any noted potential risk factors from the medical records:

_____

Additional comments:

_____
_____
_____
_____
_____