CDC AFM Biorepository

Eileen Yee, MD
Acute Flaccid Myelitis and Domestic Polio Team
Division of Viral Diseases, National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention (CDC)

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Unanswered questions about AFM

- What changed in 2014 and caused the apparent increase in enterovirus-associated, and specifically EV-D68-associated, AFM?
- Why does AFM mostly affect young children (median age is 5 years)?
- What is the fundamental pathophysiology of non-polio enterovirus mediated AFM?
  - What is the mechanism of viral spread to the CNS?
  - Why are the anterior horn cells targeted by EV-D68?
- What host factors (i.e. genetics or other risk factors) influence who gets AFM after EV infection?
- What is the role of the immune system and inflammation in disease progression?
- How can early diagnosis of enterovirus infection in the setting of AFM be facilitated?
- What is the role of intrathecal antibody detection of EV infection in AFM cases?
- Is there a therapeutic window for treating AFM?

Lerner et al. *Unraveling the Mysteries of AFM: Scientific Opportunities and Priorities for Future Researc*h. CID. 2021:72. Pgs. 2044-2048.

Biorepository

- Collection of biological samples such as blood, stool, nasal/throat swabs, cerebrospinal fluid, and other clinical specimens that is stored in a facility capable of securing, handling, and storing biological materials for future use


AFM BIOREPOSITORY

AFM Biorepository

- Objective: To build a bank of specimens matched with epidemiological and clinical data that can be used by researchers to determine the causes and risk factors for AFM as well as better diagnostics, treatment options, and preventive measures for individuals affected by AFM

- Designed to align with the NIH AFM Natural History biorepository as much as possible

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Inclusion/Exclusion Criteria

Inclusion	Exclusion
❖ Any age 3 months or older ❖ Onset of limb weakness involving one or more extremities suggestive of AFM within the previous 30 days ❖ Physician provided diagnosis of suspected AFM to participant/participant's family member ❖ Agrees to future use of specimens	❖ Suspected AFM patient at a NIH-participating hospital ❖ Known condition other than AFM causing the limb weakness ❖ Ward of the state or prisoner ❖ Refusal to consent/assent for participation

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Identifying Participants

Identification directly through clinicians

State/Local Health Department Case Report

Self- identification through Website or Hotline (with physician provided diagnosis of suspected AFM)

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Overall Process

Identify

- Identification of eligible participants
- Sharing of informational materials
- Contacting AFM Biorepository to inform McKing of potential participant

Enroll

- Enrollment and informed consent conducted by McKing
- Receiving of collection kit and necessary materials, if not already available

Collect

- Collecting of acute specimens (and/or convalescent specimens)
- Shipping of specimens to Fisher BioServices in provided collection kit
  - Once at Fisher BioServices, specimens are processed for long-term storage

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Acute and Convalescent Specimens

- Acute specimens collected at hospital (7-9 days after onset of weakness)
  - Blood
  - CSF (remnant only)
  - Stool
  - Nasopharyngeal/Oropharyngeal swab
- Convalescent specimens collected at patient's home (4-8 weeks)
  - Blood only
- Plan to merge into specimens from both NIH and CDC AFM biorepository into common biorepository

AFM BIOREPOSITORY

Project Status

- Actively enrolling (October 2020 till about end of 2022)

- Highlights:
  - Active engagement with key hospitals (i.e. partner/pre-enrolled)
  - Establishment of hospital network to contact regularly
  - Campaign to increased awareness of AFM biorepository

AFM BIOREPOSITORY

For more information:

https://www.cdc.gov/acute-flaccid-myelitis/parents/get-involved-afm-research.html

Contact McKing directly: 1-855-874-6912

AFMProject@secure.mcking.com

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov