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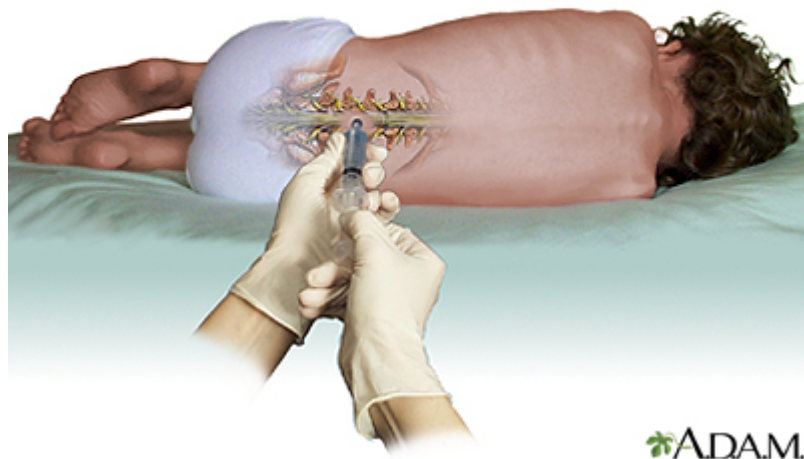
CSF coccidioides complement fixation test

CSF coccidioides complement fixation is a test that checks for infection due to the fungus *Coccidioides* in the cerebrospinal (CSF) fluid. This is the fluid surrounding the brain and spinal cord. The name of this infection is coccidioidomycosis, or valley fever. When the infection involves the covering of the brain and spinal cord (the meninges), it is called coccidioidal meningitis.

How the Test is Performed

A sample of spinal fluid is needed for this test. The sample is usually obtained by lumbar puncture (spinal tap).

Cerebrospinal fluid drawn
from between two vertebrae



The sample is sent to a laboratory. There, it is examined for *Coccidioides* antibodies using a laboratory method called complement fixation. This technique checks if your body has produced substances called antibodies to a specific foreign substance (antigen), in this case *Coccidioides*.

Antibodies are specialized proteins that defend your body against bacteria, viruses, and fungi. If the antibodies are present, they stick, or "fix" themselves, to the antigen. This is why the test is called "fixation."

How to Prepare for the Test

Follow your health care provider's instructions on how to prepare for the test. Expect to be in the hospital for several hours afterward.

How the Test Will Feel

During the test:

- You lie on your side with knees pulled up toward your chest and chin tucked downward. Or, you sit up, but bent forward.
- After your back is cleaned, the doctor injects a local numbing medicine (anesthetic) into your lower spine.
- A spinal needle is inserted, usually into the lower back area.
- Once the needle is properly positioned, CSF pressure is measured, and a sample is collected.
- The needle is removed, the area is cleaned, and a bandage is placed over the needle site.
- You are taken to a recovery area where you rest for several hours to prevent any CSF leakage.

Why the Test is Performed

This test checks if your central nervous system has an active infection from *Coccidioides*.

Normal Results

The absence of fungus (a negative test) is normal.

What Abnormal Results Mean

If the test is positive for fungus, there may be an active infection in the central nervous system.

An abnormal spinal fluid test means that the central nervous system is infected. During the early stage of an illness, few antibodies may be detected. Antibody production increases during the course of an infection. For this reason, this test may be repeated several weeks after the first test.

Risks

Risks of lumbar puncture include:

- Bleeding into the spinal canal
- Discomfort during the test
- Headache after the test
- Hypersensitivity (allergic) reaction to the anesthetic
- Infection introduced by the needle going through the skin
- Damage to the nerves in the spinal cord, occurs more commonly if the person moves during the test

Alternative Names

Coccidioides antibody test - spinal fluid

References

Galgiani JN. Coccidioidomycosis (*Coccidioides* species). In: Bennett JE, Dolin R, Blaser MJ, eds. *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*. 9th ed. Philadelphia, PA: Elsevier; 2020:chap 265.

Review Date 5/19/2023

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Health Content
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06/01/2028

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