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2024 Case Definition  
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2024 Case Definition  
NOTE:  
A surveillance case definition is a set of uniform criteria used to define a disease for public health surveillance. Surveillance case definitions enable public health officials to classify and count cases consistently across reporting jurisdictions. Surveillance case definitions are not intended to be used by healthcare providers for making a clinical diagnosis or determining how to meet an individual patient’s health needs.  
CSTE Position Statement(s)  
23-ID-08  
Subtype(s)  
Congenital Toxoplasmosis  
Toxoplasmosis  
Toxoplasmosis, Active- Primary Infection  
Toxoplasmosis, Active- Reactivation Disease  
Toxoplasmosis, Past Infection/Unable to Classify  
Background  
Infection with  
Toxoplasma gondii  
can lead to a spectrum of disease. Healthy people with infection may be asymptomatic or symptoms are unrecognized; however, some can develop clinical manifestations ranging from lymphadenopathy with or without fever, to acute systemic infection with severe manifestations or ocular disease (1,2). Those who are immunocompromised can have severe primary systemic infection or reactivation of latent infection, which typically presents as encephalitis (1,2). If a person becomes newly infected with  
Toxoplasma gondii  
during or just before pregnancy, or has reactivation of prior infection, the infection can pass to the fetus(1,2,3). This can lead to fetal death, or a child born with congenital toxoplasmosis. Infants infected prenatally may have severe symptoms at birth including neurologic, ocular, and/or systemic manifestations while others may appear asymptomatic initially but develop manifestations, including ocular disease, developmental disorders, and neurologic disease, later in life (1,2,3).  
Criteria to Distinguish a New Case from an Existing Case  
A new case of toxoplasmosis is one not previously enumerated as a case of toxoplasmosis or congenital toxoplasmosis.  
A new case of congenital toxoplasmosis is one not previously enumerated as a case of toxoplasmosis or congenital toxoplasmosis.  
Subtype(s) Case Definition  
Expand All  
Congenital Toxoplasmosis  
Clinical Criteria  
In the absence of another more likely etiology, a fetus or liveborn child with one or more of the following clinical findings:  
Retinochoroiditis,  
Hydrocephalus, or  
Intracranial calcifications.  
1  
1  
These 3 clinical findings (retinochoroiditis, hydrocephalus, intracranial calcifications) make up the classical triad of congenital toxoplasmosis. Other clinical findings (e.g., ocular [amblyopia, cataract, nystagmus, optic nerve atrophy, strabismus, visual impairment], neurologic [cerebral spinal fluid pleocytosis or elevated protein or eosinophilia or hypoglycorrhachia, developmental delay, hypotonia, macrocephaly or microcephaly, palsies, sensorineural hearing loss, seizures, spasticity], additional signs [anemia, hepatitis, hepatic calcifications, hepatomegaly or splenomegaly or hepatosplenomegaly, myocarditis, preterm birth, rash, sepsis-like illness, thrombocytopenia], fetal ultrasound findings [ascites, echogenic bowel, hepatosplenomegaly, intrahepatic densities/calcifications, intrauterine growth retardation, placenta hyperdensities, placenta increased thickness]) can be seen with congenital toxoplasmosis but are not included in the public health case classification criteria (3).  
Laboratory Criteria  
Confirmatory Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgG antibodies  
AND  
(  
Toxoplasma  
-specific IgM antibodies  
OR  
Toxoplasma  
-specific IgA antibodies)  
4  
in blood, confirmed at a reference laboratory,  
2  
OR  
Persistence in  
Toxoplasma-  
specific IgG antibody titer beyond one year of age in a patient being followed since infancy for possible congenital toxoplasmosis, OR reappearance of  
Toxoplasma  
-specific IgG antibodies after period of undetectable levels in a child who recently completed treatment for congenital toxoplasmosis,  
OR  
Increase in  
Toxoplasma  
-specific IgG antibody titer during the first year of life,  
OR  
Detection of  
Toxoplasma  
DNA (by NAAT [e.g., PCR]) performed on any tissue or body fluid (including placental tissue or amniotic fluid from birthing parent),  
OR  
Visualization of  
Toxoplasma  
in any tissue or body fluid (including placental tissue or amniotic fluid from birthing parent),  
OR  
Detection of  
Toxoplasma  
antigen in any tissue by immunohistochemistry (including placental tissue from birthing parent),  
OR  
Isolation of  
Toxoplasma  
whole live parasite from any tissue or body fluid (including placental tissue or amniotic fluid from birthing parent)  
Presumptive Laboratory Evidence:  
Detection of  
Toxoplasma-  
specific IgG antibodies  
AND  
(  
Toxoplasma  
-specific IgM antibodies  
OR  
Toxoplasma  
-specific IgA antibodies) in blood, not confirmed at a reference laboratory.  
2  
Supportive Laboratory Evidence  
Detection of  
Toxoplasma  
-specific IgG antibodies in blood.  
5  
Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.  
2  
In the United States, the toxoplasmosis reference laboratory is the  
Palo Alto Medical Foundation: Dr. Jack S. Remington Laboratory for Specialty Diagnostics  
4  
Detection of  
Toxoplasma  
-specific IgM antibodies before 5 days of age or detection of  
Toxoplasma  
-specific IgA before 10 days age could represent false-positive results due to the possibility of contamination of the infant’s blood with maternal blood because of materno-fetal blood leak (3). Other possible reasons for false-positive test results (e.g., blood product transfusion or IVIG transfusion) should also be considered (3). If mother had evidence of an acute primary toxoplasmosis infection acquired late in gestation, then initially negative  
Toxoplasma  
IgM and IgA results in the newborn at birth could be due to delayed production of those antibodies (3). Antenatal and postnatal treatment can also affect the serologic profile of the infant (3).  
5  
Detection of  
Toxoplasma  
-specific IgG in the newborn may represent congenital infection or maternal antibodies transferred transplacentally (3).  
Epidemiologic Linkage  
Fetus or infant delivered to a pregnant person with evidence of  
Toxoplasma gondii  
infection or toxoplasmosis acquired or reactivated during current gestation or within 6 months prior to conception.  
Case Classification  
Suspect  
Meets congenital toxoplasmosis supportive laboratory evidence,  
OR  
In setting of fetal loss: meets congenital toxoplasmosis epidemiological linkage criteria.  
Probable  
Meets congenital toxoplasmosis presumptive laboratory criteria  
AND  
(congenital toxoplasmosis epidemiologic linkage criteria  
OR  
congenital toxoplasmosis clinical criteria),  
OR  
Meets congenital toxoplasmosis clinical criteria  
AND  
congenital toxoplasmosis epidemiologic linkage criteria.  
Confirmed  
Meets congenital toxoplasmosis confirmatory laboratory evidence.  
Case Classification Comments  
The diagnosis of congenital toxoplasmosis after infancy is confounded by the small possibility of the child acquiring a toxoplasmosis infection postnatally (4).  
Clinical and laboratory evidence of congenital toxoplasmosis may evolve and take time to manifest throughout the infancy period.  
Toxoplasmosis  
Clinical Criteria  
In the absence of another more likely etiology, a person with new onset of one or more of the following clinical signs or symptoms:  
Fever,  
Lymphadenopathy,  
Muscle ache,  
Joint ache,  
Fatigue,  
Headache,  
Pharyngitis,  
Hepatosplenomegaly,  
Diffuse non-pruritic maculopapular rash,  
Pneumonitis,  
Myocarditis,  
Pericarditis,  
Polymyositis,  
Hepatitis,  
Retinochoroiditis without evidence of a scar, or  
Encephalitis  
Laboratory Criteria  
Confirmatory Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgM antibodies in blood, confirmed at a reference laboratory,  
2  
with laboratory evidence of acute pattern of infection,  
3  
OR  
Detection of  
Toxoplasma  
DNA (by NAAT [e.g., PCR]) performed on any tissue or body fluid,  
OR  
Visualization of  
Toxoplasma  
in any tissue or body fluid,  
OR  
Detection of  
Toxoplasma  
antigen in any tissue by immunohistochemistry,  
OR  
Isolation of  
Toxoplasma  
whole live parasite from any tissue or body fluid,  
OR  
A fourfold or greater increase in  
Toxoplasma  
-specific IgG antibody titer in paired sera samples collected at least three weeks apart,  
OR  
Evidence of  
Toxoplasma  
-specific IgG antibody seroconversion over two sequential samples collected up to 12 weeks apart, or during current pregnancy for pregnant persons.  
Presumptive Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgG antibodies in blood.  
Supportive Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgM antibodies in blood, not confirmed at a reference laboratory.  
2  
Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.  
2  
In the United States, the toxoplasmosis reference laboratory is the  
Palo Alto Medical Foundation: Dr. Jack S. Remington Laboratory for Specialty Diagnostics  
3  
This determination is made by the reference laboratory based on the results of additional  
Toxoplasma  
testing such as AC/HS differential agglutination, avidity, IgA and IgE.  
Epidemiologic Linkage  
Evidence of a shared exposure that is associated with at least one probable or confirmed case of active toxoplasmosis-primary infection.  
Case Classification  
Suspect  
Meets toxoplasmosis epidemiologic linkage criteria AND toxoplasmosis clinical criteria,  
OR  
Meets toxoplasmosis supportive laboratory evidence.  
Probable  
Meets toxoplasmosis epidemiologic linkage criteria  
AND  
toxoplasmosis supportive laboratory evidence  
AND  
toxoplasmosis clinical criteria.  
Confirmed  
Meets toxoplasmosis confirmatory laboratory evidence,  
OR  
Meets toxoplasmosis presumptive laboratory evidence.  
Toxoplasmosis, Active- Primary Infection  
Clinical Criteria  
In the absence of another more likely etiology, a person with new onset of one or more of the following clinical signs or symptoms:  
Fever,  
Lymphadenopathy,  
Muscle ache,  
Joint ache,  
Fatigue,  
Headache,  
Pharyngitis,  
Hepatosplenomegaly,  
Diffuse non-pruritic maculopapular rash,  
Pneumonitis,  
Myocarditis,  
Pericarditis,  
Polymyositis,  
Hepatitis,  
Retinochoroiditis without evidence of a scar, or  
Encephalitis  
Laboratory Criteria  
Confirmatory Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgM antibodies in blood, confirmed at a reference laboratory,  
2  
with laboratory evidence of acute pattern of infection,  
3  
OR  
Detection of  
Toxoplasma  
DNA (by NAAT [e.g., PCR]) performed on any tissue or body fluid,  
OR  
Visualization of  
Toxoplasma  
in any tissue or body fluid,  
OR  
Detection of  
Toxoplasma  
antigen in any tissue by immunohistochemistry,  
OR  
Isolation of  
Toxoplasma  
whole live parasite from any tissue or body fluid,  
OR  
A fourfold or greater increase in  
Toxoplasma  
-specific IgG antibody titer in paired sera samples collected at least three weeks apart,  
OR  
Evidence of  
Toxoplasma  
-specific IgG antibody seroconversion over two sequential samples collected up to 12 weeks apart, or during current pregnancy for pregnant persons.  
Presumptive Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgG antibodies in blood.  
Supportive Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgM antibodies in blood, not confirmed at a reference laboratory.  
2  
Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.  
2  
In the United States, the toxoplasmosis reference laboratory is the  
Palo Alto Medical Foundation: Dr. Jack S. Remington Laboratory for Specialty Diagnostics  
3  
This determination is made by the reference laboratory based on the results of additional  
Toxoplasma  
testing such as AC/HS differential agglutination, avidity, IgA and IgE.  
Epidemiologic Linkage  
Evidence of a shared exposure that is associated with at least one probable or confirmed case of active toxoplasmosis-primary infection.  
Case Classification  
Suspect  
Meets toxoplasmosis epidemiologic linkage criteria  
AND  
toxoplasmosis clinical criteria,  
OR  
Meets toxoplasmosis supportive laboratory evidence.  
Probable  
Meets toxoplasmosis epidemiologic linkage criteria  
AND  
toxoplasmosis supportive laboratory evidence  
AND  
toxoplasmosis clinical criteria.  
Confirmed  
Meets toxoplasmosis confirmatory laboratory evidence  
AND  
has no previous evidence of toxoplasmosis (such as a previous positive  
Toxoplasma  
-specific IgG or previous clinical diagnosis of toxoplasmosis).  
Toxoplasmosis, Active- Reactivation Disease  
Laboratory Criteria  
Confirmatory Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgM antibodies in blood, confirmed at a reference laboratory,  
2  
with laboratory evidence of acute pattern of infection,  
3  
OR  
Detection of  
Toxoplasma  
DNA (by NAAT [e.g., PCR]) performed on any tissue or body fluid,  
OR  
Visualization of  
Toxoplasma  
in any tissue or body fluid,  
OR  
Detection of  
Toxoplasma  
antigen in any tissue by immunohistochemistry,  
OR  
Isolation of  
Toxoplasma  
whole live parasite from any tissue or body fluid,  
OR  
A fourfold or greater increase in  
Toxoplasma  
-specific IgG antibody titer in paired sera samples collected at least three weeks apart,  
OR  
Evidence of  
Toxoplasma  
-specific IgG antibody seroconversion over two sequential samples collected up to 12 weeks apart, or during current pregnancy for pregnant persons.  
Presumptive Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgG antibodies in blood.  
Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.  
2  
In the United States, the toxoplasmosis reference laboratory is the  
Palo Alto Medical Foundation: Dr. Jack S. Remington Laboratory for Specialty Diagnostics  
3  
This determination is made by the reference laboratory based on the results of additional  
Toxoplasma  
testing such as AC/HS differential agglutination, avidity, IgA and IgE.  
Case Classification  
Probable  
In the absence of another more likely etiology:  
Reactivation toxoplasmic encephalitis: Meets toxoplasmosis presumptive laboratory evidence  
AND  
toxoplasmosis clinical criteria of brain imaging that demonstrates typical toxoplasmic encephalitis radiographic appearance (e.g. ring-enhancing lesion[s]),  
AND  
has compatible clinical syndrome (e.g. headache, mental status changes or other neurologic symptoms)  
AND  
is immunocompromised  
AND  
criteria for probable active toxoplasmosis- primary infection are not already met,  
OR  
Reactivation ocular toxoplasmosis: A person with retinochoroiditis with evidence of a scar  
8  
,  
OR  
clinician diagnosis of new onset of recurrent toxoplasmosis ocular lesion.  
Confirmed  
Meets toxoplasmosis confirmatory laboratory evidence  
AND  
has previous evidence of toxoplasmosis (such as a previous positive  
Toxoplasma  
-specific IgG, previous clinical diagnosis of toxoplasmosis, or clinician diagnosis of new onset of recurrent toxoplasmosis ocular lesion).  
8  
This may appear as a single discrete, yellow-white focus of dense inflammatory material within and overlying the retina arising from the border of a scar. Findings of intraocular inflammation, such as transient elevation of intraocular pressure at onset of activity, cellular reactions in ocular fluids (aqueous humor, vitreous humor), or retinal vascular sheathing (anywhere in the fundus) would be further evidence of active disease.  
Toxoplasmosis, Past Infection/Unable to Classify  
Laboratory Criteria  
Presumptive Laboratory Evidence:  
Detection of  
Toxoplasma  
-specific IgG antibodies in blood.  
Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.  
Case Classification  
Confirmed  
Meets toxoplasmosis presumptive laboratory evidence  
AND  
Criteria for probable or confirmed active toxoplasmosis (primary infection or reactivation disease) or congenital toxoplasmosis are not already met.  
Case Classification Comments  
Cases may be categorized as either "toxoplasmosis" or "congenital toxoplasmosis".  
Toxoplasmosis: Health departments that have the capacity and resources to conduct further surveillance may instead use one of the optional three toxoplasmosis sub-classifications below to guide public health action.  
Toxoplasmosis, active- primary infection;  
OR  
Toxoplasmosis, active- reactivation disease;  
OR  
Toxoplasmosis, past infection/unable to classify.  
Congenital toxoplasmosis: no further sub-classifications are available  
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