

ICS 11.020
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WS

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

WS/T 295-2019

**Diagnosis for meningococcal meningitis
(English Translation)**

Issued on: January 1, 1970

Implemented on: July 1, 2019

Issued by: National Health Commission

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Foreword

5.1, 5.2, and 5.3 of this standard are mandatory and the rest are recommended.

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces WS 295-2008 "Diagnostic Criteria for Epidemic Cerebrospinal Meningitis." Compared with WS 295-2008, the main technical changes of this standard are as follows.

- Added abbreviations (see Chapter 2);
- Revised the history of epidemiology (see 3.1, 2.1 of the 2008 edition);
- Revised clinical performance (see 3.2, 2008 version 2.2);
- Revised the "peripheral blood image" as "blood routine" (see 3.3.1, 2.3.1 of the 2008 edition);
- increased the results of cerebrospinal fluid examination (see 3.3.2);

- Added "defective (spot) tissue fluid" (see 3.3.3.2 and 3.3.3.3);
- Revised the diagnostic principle (see 4, 2008 edition 3);
- Revised "serology" to "immunology" (see 3.3.4, 2008 version 2.3.4);
- Revised suspected cases (see 5.1, 2008 edition 4.2);
- Revised clinically diagnosed cases (see 5.2, 2008 edition 4.3);
- Revised confirmed cases (see 5.3, 4.4 of the 2008 edition);
- Added "other meningococcal disease" (see 7.2);
- Added "differential diagnosis" (see Appendix B, B.4);
- Modified the laboratory test method for *Neisseria meningitidis* (see Appendix A);
- According to changes in the epidemiological characteristics of epidemic cerebrospinal meningitis, in Appendix B, the pathogen of epidemic cerebrospinal meningitis the relevant descriptions in the study, epidemiology and clinical manifestations are revised (see Appendix B).

This standard was drafted. China Center for Disease Control and Prevention, Beijing Ditan Hospital affiliated to Capital Medical University, Shandong Provincial Disease Prevention and Control Center, Gansu Provincial Center for Disease Control and Prevention, Qilu Children's Hospital of Shandong University, Beijing Children's Hospital of Capital Medical University, Chinese Medicine Beijing Union Medical College Hospital.

1 Scope

This standard specifies the diagnostic basis, diagnostic principles, diagnosis and differential diagnosis of epidemic cerebrospinal meningitis.

This standard is applicable to the diagnosis of epidemic cerebrospinal meningitis at various levels of medical and health institutions and their medical staff.

2 Abbreviations

The following abbreviations apply to this document.

CFU/mL. colony forming unit per ml (colony-forming unit/mL) DIC. disseminated or diffuse intravascular coagulation DNA. deoxyribonucleic acid ELISA. enzyme-linked immunosorbent assay IgG. immunoglobulin G (immunoglobulin G) OD. optical density PBS. phosphate buffer saline Real-time PCR. real-time polymerase chain reaction SBA. serum bactericidal assays TTC. triphenyl tetrazolium chloride Rpm. revolutions per minute (revolutions per minute) WHO. world health organization

3.1 Epidemiological history

Local occurrence or prevalence of the disease, or history of travel or travel in epidemic cerebrospinal meningitis within 10 days before onset.

3.2.1 Incubation period

A few hours to 10 days, usually 2 days to 3 days.

3.2.2 Main clinical symptoms and signs

3.2.2.1

fever, headache, vomiting, and/or meningeal irritation, infants and young children can see the anterior hernia. Severe patients can have varying degrees A disturbance of consciousness and/or infection with toxic shock.

3.2.2.2

Defects (spots) appear on the skin and mucous membranes. Freckles can be quickly expanded into pieces.

3.3.1 Blood routine

The total number of white blood cells and neutrophil counts were significantly increased.

3.3.2 Cerebrospinal fluid routine

The typical change is pressure increase, the appearance is turbid rice soup or pus; the number of white blood cells is significantly increased, and the polymorphonuclear leukocytes are mainly increased;

Sugar and chloride are significantly reduced and protein content is increased. However, in the early stage of the disease, only the pressure rises, the appearance is clear, and then a typical change occurs.

Cerebrospinal fluid in patients with cerebral shock is usually clear, and there is no change in protein, cell number and sugar.

3.3.3 Pathogens

3.3.3.1

Defects (plaque) tissue fluid, cerebrospinal fluid smear test, Gram-negative kidney-type diplococcus can be seen in polymorphonuclear leukocytes or outside the cells.

3.3.3.2

Cerebrospinal fluid, blood, sputum (plaque) tissue fluid culture *Neisseria meningitidis*

positive.

3.3.3.3

cerebrospinal fluid, blood, sputum (plaque) tissue fluid *Neisseria meningitidis* specific nucleic acid detection positive.

3.3.4 Immunology

3.3.4.1

Acute cerebrospinal fluid samples were positive for *Neisseria meningitidis*-specific polysaccharide antigens.

3.3.4.2

In the recovery period, the serum specificity of *Neisseria meningitidis* IgG antibody is 4 or more times higher than that in the acute phase.

4 Diagnostic principles

Suspected cases and/or clinically diagnosed diseases based on epidemiological history and clinical manifestations and routine blood test results and/or cerebrospinal fluid findings the diagnosis of the case.

Confirmation of *Neisseria meningitidis* pathogen or immunological test results, further pathogen clustering for cases with positive pathogen detection Diagnosis (see A.3 in Appendix A).

5.1 Suspected cases

It also complies with 3.1 and 3.2.2.1, and at the same time complies with any of 3.3.1 and 3.3.2.

5.2 Clinical diagnosis cases

Meets 5.1 and complies with 3.2.2.2.

5.3 Confirmed cases

Meets 5.1 or 5.2 and complies with any of 3.3.3 and 3.3.4.

5.4 Clinical classification

Clinical classification diagnosis is performed on the basis of clinical diagnosis or confirmed diagnosis (see Appendix B, B.3).