MAIVA MATERIAL

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READING TEST 14

Reading: Part A

TIME LIMIT: 15 MINUTES

Instructions:

- Complete the summary of **Part A - Answer booklet** using the information in the four texts (A1-4) below.
- You **do not** need to read each text from beginning to end to complete the task. You should scan the texts to find the information you need.
- Gaps may require **1, 2 or 3 words.** Answer **ALL** questions. Marks are **NOT** deducted for incorrect answers.
- You should write your answers next to the appropriate number in the **right-hand column.**
- Please use **correct spelling** in your responses. **Do not** use abbreviations unless they appear in the texts.

Text 1

Optic neuritis is an inflammation of the optic nerve, the bundle of nerve fibers that transmits visual information from your eye to your brain. Pain and temporary vision loss are common symptoms of optic neuritis. Optic neuritis is highly associated with multiple sclerosis, a disease that causes inflammation and damage to nerves in your brain and spinal cord. In some people, signs and symptoms of optic neuritis may be the first indication of multiple sclerosis. Most people who have a single episode of optic neuritis eventually recover their vision. Treatment with steroid medications may speed up vision recovery after optic neuritis.

Text 2

Optic neuritis usually affects one eye. Symptoms might include:

- Pain.
  Most people who develop optic neuritis experience eye pain that's worsened by eye movement. Sometimes the pain feels like a dull ache behind the eye.
- Vision loss.
  Most people experience at least some temporary reduction in vision, but the extent of vision loss varies. Noticeable vision loss usually develops over hours or days (or sometimes within 1 to 2 weeks). Exercise or a hot bath or shower may exaggerate the vision loss. Vision loss is permanent in some cases.
- Loss of color vision.
  Optic neuritis often affects color perception. You might notice that colors appear less vivid than normal.
- Flashing lights. Some people with optic neuritis report seeing flashing or flickering lights.

Text 3

The exact cause of optic neuritis is unknown. However, optic neuritis is believed to develop when the immune system mistakenly targets the substance covering your optic nerve (myelin), resulting in inflammation and damage to the myelin.
Normally, the myelin helps electrical impulses travel quickly from the eye to the brain, where they're converted into visual information. Optic neuritis disrupts this process, affecting vision.

The following autoimmune conditions are often associated with optic neuritis:

- Multiple sclerosis.
  Multiple sclerosis is a disease in which your auto immune system attacks the myelin sheath covering nerve fibers in your brain and spinal cord. In people with optic neuritis, the risk of developing multiple sclerosis following one episode of optic neuritis is about 50 percent over a lifetime.
  Your risk of developing multiple sclerosis after optical neuritis increases further if an MRI scan shows lesions on your brain.
- Neuromyelitis optica.
- In this condition, inflammation occurs in the optic nerve and spinal cord. Neuromyelitis optica has similarities to multiple sclerosis, but neuromyelitis optica doesn't cause damage to the nerves in the brain as often as multiple

sclerosis does. Optic neuritis arising from neuromyelitis optica tends to be more severe than optic neuritis associated with multiple sclerosis.

Other autoimmune conditions, such as sarcoidosis and systemic lupus erythematosus, have also been associated with optic neuritis. Other factors that have been linked to the development of optic neuritis include:

- Infections - bacterial infections, including Lyme disease, cat-scratch fever and syphilis; or viruses such as measles, mumps and herpes can cause optic neuritis.
- Drugs - some drugs have been associated with the development of optic neuritis. One of these drugs is ethambutol (myambutol), which is used to treat tuberculosis.

Text 4

Risk factors for optic neuritis arising from autoimmune disorders include:

- Age.
  Optic neuritis mostly affects young adults aged between 20 to 40 years old.
- Sex.
  Women are much more likely to develop optic neuritis than men are by a ratio of 3-to-1.
- Race.
  In the United States, optic neuritis occurs more frequently in white people than it does in black people.
- Genetic mutations.
  Certain genetic mutations might increase your risk of developing optic neuritis or multiple sclerosis.

Text 5

You're likely to see an ophthalmologist for a diagnosis, which is generally based on your medical history and an exam. The ophthalmologist will likely perform the following eye tests:

- A routine eye exam - your eye doctor will check your vision and your ability to perceive colors.
- An ophthalmoscopy - during this examination, your doctor shines a bright light into your eye and examines the structures at the back of your eye. This eye test evaluates the optic disk, where the optic nerve enters the retina in

your eye. The optic disk becomes swollen in about one-third of people with optic neuritis.

- Pupillary light reaction test - your doctor may move a flashlight in front of your eyes to see how your pupils respond when they're exposed to bright light. Pupils in eyes affected by optic neuritis don't constrict as much as those in healthy eyes do when stimulated by light.

Other tests to diagnose optic neuritis may include:

- Visual evoked response.
  During this test, you sit in front of a screen on which an alternating checkerboard pattern is displayed. Attached to your head are wires with small patches to record your brain's responses to the visual stimuli. This type of test detects the slowing of electrical conduction resulting from damage to the optic nerve.
- Magnetic resonance imaging (MRI) scan.
  An MRI scan uses a magnetic field and pulses of radio wave energy to create pictures of your body. During an MRI to check for optic neuritis, you may be injected with a contrast solution to make the optic nerve and other parts of your brain more visible on the images.
  An MRI is important to determine whether there are damaged areas (lesions) in your brain, which indicate a high risk of developing multiple sclerosis. An MRI can also rule out other causes of visual loss, such as a tumor.
- Blood tests.
  A blood test is available to check for antibodies for neuromyelitis optica. People with severe optic neuritis may undergo this test to determine whether they're likely to develop neuromyelitis optica (blood tests like sed rate, thyroid function, antinuclear antibodies, etc. that can be performed to look for other causes of optic neuritis/neuropathy).

Summary

Optic neuritis is an 1……. that affects the 2……. of the optic nerve, which transmits 3…….. to the brain. The optic nerve is actually a nerve tract of axons that originate in the 4……. of the retina. Nerve tracts are the

information pathways in the brain. The "optic nerves" are the only nerve tracts not located entirely within the brain. The optic nerves carry visual information from the retina to the brain stem, where the 5……...to the area of the brain that recognizes vision (the occipital cortex). Optic neuritis can occur in 6……. or 7…… and may involve either one or both optic nerves. Optic neuritis typically affects young adults ranging from 8……..age. The precise cause of optic neuritis is unknown, but it is thought to be a type of 9…….. The immune system is generally used to fight infection by creating a reaction that combats bacteria, viruses, fungi, and other foreign proteins. In autoimmune diseases, this reaction is 10……. against a normal part of the body, creating 11…….. and potential damage. In the case of optic neuritis, the optic nerve becomes 12……...and its function is 13…….... There are a variety of conditions that can affect the optic nerve causing symptoms similar to optic neuritis (optic neuropathies). The major symptom of optic neuritis is 14……., usually in one eye, often developing within hours to a couple of days and peaking in 1 to 2 weeks. It may vary from a small area of blurring to 15……... Affected individuals may also notice distorted vision, reduced color vision, 16……. and washed-out or less vivid vision than normal. Symptoms may be worsened by heat or 17…….. Vision loss is usually 18……., but it may be permanent in some cases. Most people who develop optic neuritis experience temporary vision 19…….. that is worsened by eye movement. The intensity of the pain usually follows the course of the vision loss. Because optic neuritis usually only affects one eye, patients may be unaware of subtle visual loss or changes in the color vision until they or doctors close or cover the healthy eye. Optic neuritis is suspected based on the characteristic history of eye pain and vision loss. The standard exam includes visual acuity, 20……., visual field evaluation, color vision testing, and visualization of the optic disc by direct and indirect 21……. A person experiencing a first episode of optic neuritis should undergo an 22……. brain to look for the central nervous system lesions associated with MS. The MRI may also show an enlarged optic nerve. Visual symptoms usually progress for the first couple weeks, and then start to improve within the first month. If the course of recovery is not typical, then there are a number of 23……..like the sed rate, 24……., 25……. etc. that can be performed to look for other causes of optic neuritis/neuropathy.

End of Part A

Part B - Text Booklet

Instructions

TIME LIMIT: 45 MINUTES

- ❏ There are TWO reading texts in Part B. After each of the texts you will find a number of questions or unfinished statements about the text, each with four suggested answers or ways of finishing.
- ❏ You must choose the ONE, which you think, fits best. For each question, 1-20, indicate on your answer sheet the letter A, B, C or D against the number of the question.
- ❏ Answer ALL questions. Marks are NOT deducted for incorrect answers.

NOTE: You must complete your Answer Sheet for Part B within the 45 minutes allowed for this part of the sub-test.

B1 - Ulcerative colitis

Paragraph 1

Ulcerative colitis is a chronic inflammation of the large intestine (colon). The colon is the part of the digestive system where water is removed from undigested material, and the remaining waste material is stored. The rectum is the end of the colon adjacent to the anus. In patients with ulcerative colitis, ulcers and inflammation of the inner lining of the colon lead to symptoms of abdominal pain, diarrhea, and rectal bleeding. Ulcerative colitis is closely related to another condition of inflammation of the intestines called Crohn's disease. Together, they are frequently referred to as inflammatory bowel disease (IBD). Ulcerative colitis and Crohn's diseases are chronic conditions that can last years to decades. They affect approximately 500,000 to 2 million people, in the United States. Men and women are affected equally. They begin most frequently during adolescence and early adulthood, but they can also begin during childhood and later in life. It is found worldwide, but is most common in the United States, England, and Northern

Europe; it is especially common in people of Jewish descent. Ulcerative colitis is rarely seen in Eastern Europe, Asia, or South America, and is rare in the black population. For unknown reasons, an increased frequency of this condition has been observed recently in developing nations.

Paragraph 2

The cause of ulcerative colitis is not known. To date, there has been no convincing evidence that it is caused by infection or is contagious. Ulcerative colitis likely involves abnormal activation of the immune system in the intestines. Normally, the immune system is activated only when the body is exposed to harmful invaders. In patients with ulcerative colitis, however, the immune system is abnormally and chronically activated in the absence of any known invader. The continued abnormal activation of the immune system causes chronic inflammation and ulceration. The susceptibility to abnormal activation of the immune system is genetically inherited. First degree relatives (brothers, sisters, children, and parents) of patients with IBD are thus more likely to develop these diseases. In the last 1 to 2 years, there have been multiple studies using genome wide association scans investigating genetic susceptibility in ulcerative colitis. These studies have found there to be approximately 30 genes that might increase susceptibility to ulcerative colitis including immunoglobulin receptor gene FCGR2A, 5p15, 2p16, ORMDL3, ECM1, as well as regions on chromosomes 1p36, 12q15, 7q22, 22q13, and IL23R. At this early point in the research, it is still unclear how these genetic associations will be applied to treating the disease, but they might have future implications for understanding pathogenesis and creating new treatments.

Paragraph 3

Common symptoms of ulcerative colitis include rectal bleeding, abdominal pain, and diarrhea, but there is a wide range of symptoms among patients with this disease. Variability of symptoms reflects differences in the extent of disease (the proportion of the colon and rectum which is inflamed) and the intensity of inflammation. The different types of ulcerative colitis are classified according to the location and the extent of inflammation; ulcerative proctitis refers to inflammation that is limited to the rectum. In many patients with ulcerative proctitis, mild intermittent rectal bleeding may be the only symptom. Other patients with more severe rectal inflammation may, in addition, experience rectal pain, urgency (sudden feeling of having to defecate and a need to rush to the bathroom for fear of soiling), and

tenesmus (ineffective, painful urge to move one's bowels caused by the inflammation). Proctosigmoiditis involves inflammation of the rectum and the sigmoid colon (a short segment of the colon contiguous to the rectum). Symptoms of proctosigmoiditis, like that of proctitis, include rectal bleeding, urgency, and tenesmus. Pancolitis or universal colitis refers to inflammation affecting the entire colon (right colon, left colon, transverse colon and the rectum). Symptoms of pancolitis include bloody diarrhea, abdominal pain and cramps, weight loss, fatigue, fever, and night sweats. Some patients with pancolitis have low-grade inflammation and mild symptoms that respond readily to medications. Generally, however, patients with pancolitis suffer more severe strengths of the disease and are more difficult to treat than those with more limited forms of ulcerative colitis. Fulminant colitis is a rare but severe form of pancolitis.

Paragraph 4

The detection of ulcerative colitis is suggested by the symptoms of abdominal pain, rectal bleeding, and diarrhea. As there is no gold standard for diagnosis, the ultimate diagnosis relies on a combination of symptoms, the appearance of the colonic lining at the time of endoscopy, histologic features of biopsies of the colonic lining, and studies of stool to exclude the presence of infectious agents that may be causing the inflammation. Stool specimens are collected for analysis to exclude infection and parasites, since these conditions can cause colitis that mimics ulcerative colitis. Blood tests may show anemia and an elevated white blood cell count or sedimentation rate (commonly referred to as sed rate). An elevated white blood cell count and sed rate both reflect ongoing inflammation, but may be elevated with any type of chronic inflammation including UC and Crohn's disease. Other blood tests may also be checked including kidney function, liver function tests, iron studies, and C-reactive protein (another sign of inflammation). There is some evidence that a stool test for a protein called calprotectin could be useful in identifying patients who would benefit from a colonoscopy. Calprotectin seems to be a sensitive marker of intestinal inflammation, meaning that it can be elevated before symptoms become severe and the signs of inflammation are unclear.

Paragraph 5

Patients with ulcerative colitis limited to the rectum (proctitis) or colitis limited to the end of the left colon (proctosigmoiditis) usually do quite well. Brief periodic treatments using oral medications or enemas may be sufficient. Serious

complications are rare in these patients. In those with a more extensive strength of the disease, blood loss from the inflamed intestines can lead to anemia and may require treatment with iron supplements or even blood transfusions. Rarely, the colon can acutely dilate to a large size when the inflammation becomes very severe; this condition is called toxic megacolon. Patients with toxic megacolon are extremely ill with fever, abdominal pain and distention, dehydration, and malnutrition. Unless the patient improves rapidly with medication, surgery is usually necessary to prevent colonic rupture. In a published Scandinavian study of over 500 patients with ulcerative colitis followed for up to 10 years after diagnosis, it was found that their mortality rate did not differ from the general population. Also, the cumulative need for colectomy after 10 years was 9.8%, nearly 50% of the patients were relapse free in the last five years of the study, and only 20% of the patients with proctitis or left-sided disease progressed to pancolitis. Complications of ulcerative colitis can involve other parts of the body; ten percent of the patients can develop inflammation of the joints (arthritis). Likewise, some patients suffer from lower back pain due to arthritis of the sacroiliac joints; others can have painful, red eyes (uveitis, episcleritis). Because these particular complications can risk permanent vision impairment, eye pain or redness are symptoms that require a physician's evaluation. Diseases of the liver and bile ducts also may be associated with ulcerative colitis.

Questions 1-11

1 Ulcerative colitis can be the direct cause of

A abdominal pain
B diarrhea
C rectal bleeding
D not given

2 Who are more affected?

A men
B women
C men and women
D children

3 Which of these is one of the major causes for the development of the ulcerative colitis?

A intense inflammation due to poor immunity
B low defense mechanism of the body
C abnormal functioning of the immune system
D not given
4 Which of these is the most common immuno globin receptor gene(s)?

A FCGR2A
B 5p15, and 2p15
C ORMDL3, ECM5,
D Not given here

5 Rectal bleeding, urgency, and tenesmus are common symptoms of

A ulcerative proctitis
B pancolitis or universal coliti
C proctosigmoiditis
D B and C

6 What is more difficult to treat?

A ulcerative proctitis
B proctosigmoiditis
C pancolitis
D not given here

7 Paragraph 4 talks more about

A how the diagnosis of Ulcerative Colitis is made
B how treatment is offered
C detection methodologies
D symptoms in general

8 Which test can be most effective in identifying the disease?

A stool test like calprotectin
B blood test
C both stool and blood tests
D not given in the paragraph

9 Calprotectin can be elevated well before the symptoms become hard to tackle
A 50% true
B false
C 100% true
D not related to the paragraph given

10 According to paragraph 5, blood can occur more due to

A ulcerative colitis
B anemia
C loss of iron supplements
D blood drainage

11 As described in paragraph 5, the most frequent complications involve

A development of the inflammation of the joints
B lower back pain
C vision impairment
D Not given

End of B1

B2 - What is Idiopathic Thrombocytopenic Purpura (ITP)?

Paragraph 1

Idiopathic thrombocytopenic purpura (ITP) is a bleeding condition in which the blood doesn't clot as it should; this is due to a low number of blood cell fragments called platelets (PLATE-lets). Platelets also are called thrombocytes (THROM-bo-sites). They're made in your bone marrow along with other kinds of blood cells. Platelets stick together (clot) to seal small cuts or breaks on blood vessel walls and stop bleeding. You can understand the name of this disease by an explanation of its three parts. "Idiopathic" (id-ee-o-PATH-ick) means that the cause of the condition isn't known. "Thrombocytopenic" (throm-bo-cy-toe-PEE-nick) means there's a lower

than normal number of platelets in the blood. "Purpura" (PURR-purr-ah) refers to purple bruises caused by bleeding under the skin.

Paragraph 2

People who have ITP often have purple bruises that appear on the skin or on the mucous membranes (for example, in the mouth). The bruises mean that bleeding has occurred in small blood vessels under the skin. A person who has ITP may also have bleeding that results in tiny red or purple dots on the skin. These pinpoint-sized dots are called petechiae (peh-TEE-kee-ay). Petechiae may look like a rash. People who have ITP also may have nosebleeds, bleeding from the gums when they have dental work done, or other bleeding that's hard to stop. Women who have ITP may have menstrual bleeding that's heavier than usual. More extensive bleeding can cause hematomas (he-mah-TO-mas). Ahematoma is a collection of clotted or partially clotted blood under the skin. It looks or feels like a lump. Bleeding in the brain as a result of ITP is very rare, but can be life threatening if it occurs. In most cases, an autoimmune response is believed to cause ITP. Normally, your immune system helps your body fight off infections and diseases; but if you have ITP, your immune system attacks and destroys its own platelets. The reason why this happens isn't known. ITP can't be passed from one person to another.

Paragraph 3

There are two types of ITP: acute (temporary or short-term) and chronic (long-lasting). Acute ITP generally lasts less than 6 months, if not for more than 8 to 10 months (as it can in some cases, depend more on the treatment procedure). It mainly occurs in children, both boys and girls, and is the most common type of ITP. Acute ITP often occurs after an infection caused by a virus. Chronic ITP is long-lasting (6 months or longer) and mostly affects adults. However, some teenagers and children can get this type of ITP. Chronic ITP affects women 2 to 3 times more often than men. In most cases, it's believed that an autoimmune response causes idiopathic thrombocytopenic purpura (ITP). Normally, the immune system makes antibodies (proteins) to fight off germs or other harmful things that enter the body. In ITP, however, the immune system attacks and destroys the body's platelets by mistake. Why this happens isn't known. Children who get acute (short-term) ITP often have had recent viral infections. It's possible that the infection somehow "triggers" or sets off the immune reaction that leads to ITP in these children. ITP in adults, on the other hand, doesn't seem to be linked to infections.

Paragraph 4

Both children and adults can develop idiopathic thrombocytopenic purpura (ITP). Children usually get the acute (short-term) type of ITP; acute ITP often develops after an infection caused by a virus. On the other hand, adults tend to get the chronic (long-lasting) type of ITP. Women are 2 to 3 times more likely than men to get chronic ITP. ITP is a fairly common blood disorder, with 50 to 150 new cases per every 1 million people each year; about half of these cases are children. However, the number of cases of ITP is rising because routine blood tests that can detect a low platelet count are being done more often. ITP can't be passed from one person to another and having a low platelet count doesn't cause symptoms. However, the bleeding that a low platelet count can cause may have the following signs and symptoms:

- Pinpoint red spots on the skin that are often found in groups and may look like a rash
- Bruising or purplish areas on the skin or mucous membranes (such as in the mouth) due to bleeding under the skin. More extensive bleeding can cause hematomas. A hematoma is a collection of clotted or partially clotted blood under the skin; it looks or feels like a lump.
- Nosebleeds or bleeding from the gums (for example, when dental work is done).
- Blood in the urine or stool (bowel movement).

Any kind of bleeding that's hard to stop could be a sign of ITP; this includes menstrual bleeding in women that's heavier than usual. Bleeding in the brain is rare, and the symptoms of bleeding in the brain may vary in severity. A low number of platelets doesn't cause pain, fatigue (tiredness), problems concentrating, or any other symptoms.

Paragraph 5

Your doctor will diagnose idiopathic thrombocytopenic purpura (ITP) based on your medical history, a physical exam, and test results. Your doctor will want to make sure that your low platelet count isn't due to another condition (such as an infection) or a side effect of medicines you're taking (such as chemotherapy medicines or aspirin). Your doctor may ask about:

- Your signs and symptoms of bleeding and any other signs or symptoms you're having

- Whether you have illnesses that could lower your platelet count or cause bleeding
- Medicines or any other over-the-counter supplements or remedies you take that could cause bleeding or lower your platelet count.

Your doctor will give you a physical exam and look for signs of bleeding and infection. For example, your doctor may look for pinpoint red spots on the skin and bruising or purplish areas on the skin or mucous membranes. These are signs of bleeding under the skin. You'll likely have blood tests to check your platelets. These tests usually include:

- A complete blood count:
  This test shows the numbers of different kinds of blood cells, including platelets, in a small sample of your blood. In ITP, the red and white blood cell counts are normal.
- A blood smear:
  During this test, some of your blood is put on a slide. A microscope is then used to look at your platelets and other blood cells. In ITP, the number of platelets is lower than normal.
- You also may have a blood test to check for the antibodies that attack platelets. If blood tests show that you have a low number of platelets, your doctor may recommend more tests to confirm a diagnosis of ITP. For example, bone marrow tests may be used to see whether your bone marrow is making platelets.

Questions 12-20

12 ITP refers to a condition in which

A blood clots more often than it should
B blood clots as it should
C blood doesn’t clot as it should
D blood clots very rarely

13 A person with ITP may experience

A frequent loss of blood
B blood clotting problems
C blood transfusion problems

D not given

14 An autoimmune response can be a major cause of ITP

A true
B false
C sometimes true, sometimes false
D not given

15 ITP that is of acute type may end

A within 6 months
B after 6 months
C within 8 months
D within 10 months

16 Short term ITP may develop

A viral infections very often
B viral infections in some cases
C viral infections in 9 out of 10
D not given

17 Paragraph 4 talks more about

A the spread of the disease
B risk factors associated with the disease
C common symptoms
D B and D

18 The most severe symptoms of the diseases include blood in urine

A true
B false
C true and false
D not given in the paragraph

19 "Some people who have mild ITP have few or no signs of bleeding."

A true
B false
C true and false
D not given

20 Which of the following statements is taken from paragraph 5?

A blood count is often the best way to diagnose the disease
B the number of platelets is always fewer than normal.
C bleeding can be the cause of not just ITP alone
D bone marrow tests are more effective than others

End of Part B