

## 【東邦大（医）】

次の英文を読み、設問 1~17 に最も適する答を、(a) ~ (d) の中から一つ選べ。

Gout is a form of acute arthritis that causes (1)**severe** pain and swelling in the joints. It most commonly affects the big toe, but may also affect the heel, ankle, hand, wrist, or elbow. It affects the spine often enough to be a factor in back pain. Gout usually comes on suddenly, goes away after 5-10 days, and can keep recurring. (2)Gout is different from other forms of arthritis because it occurs when there are high levels of uric acid circulating in the blood,  
5 which can cause urate crystals to settle in the tissues of the joints.

Uric acid, which is found naturally in the blood stream, is formed as the body breaks down waste products, mainly those containing purine, a (3)**substance** that is produced by the body and is also found in high concentration in some foods, including brains, liver,  
10 sardines, anchovies, and dried peas and beans. Normally, the kidneys filter uric acid out of the blood and excrete it in the urine. Sometimes, however, the body produces too much uric acid or the kidneys aren't efficient enough at filtering it from the blood, and it builds up in the blood stream, a condition known as hyperuricemia. A person's susceptibility to gout may increase because of the inheritance of certain genes or from being overweight and eating  
15 a rich diet.

Hyperuricemia doesn't always cause gout. Over the course of years, however, sharp urate crystals build up in the synovial fluid of the joints. Often, some precipitating event, such as an infection, surgery, the stress of hospitalization, a stubbed toe, or even a heavy drinking binge can cause inflammation. (4)White blood cells, mistaking the urate  
20 crystals for a foreign invader, flood into the joint and surround the crystals, causing inflammation — in other words, the redness, swelling, and pain that are the hallmarks of a gout attack.

As a result of high levels of uric acid in the blood, needle-like urate crystals gradually (5)**accumulate** in the joints. Urate crystals may be present in the joint for a long time

25 without causing symptoms. Infection, injury to the joint, surgery, drinking too much, or  
eating the wrong kinds of foods may suddenly bring on the symptoms, which include pain,  
tenderness, redness, warmth, and swelling of the joint. In many cases, the gout attack  
begins in the middle of the night. The pain is often so excruciating that the sufferer cannot  
bear weight on the joint or (6)**tolerate** the pressure of bedcovers. The inflamed skin over  
30 the joint may be red, shiny, and dry, and the inflammation may (7)**be accompanied** by a  
mild fever. These symptoms may go away in about a week and disappear for months or  
years at a time. However, over the course of time, attacks of gout (8)**recur** more and more  
frequently, last longer, and affect more joints. Eventually, stone-like deposits known as  
tophi may build up in the joints, ligaments, and tendons, leading to (9)**permanent** joint  
35 deformity and decreased motion.

Usually, physicians can diagnose gout based on the physical examination and  
medical history (the patient's description of symptoms and other information). Doctors can  
also administer a test that measures the level of uric acid in the blood. (10)While normal  
uric acid levels don't necessarily rule out gout and high levels don't confirm it, the presence  
40 of hyperuricemia increases the likelihood of gout. The development of a tophus can confirm  
the diagnosis of gout. The most (11)**definitive** way to diagnose gout is to take a sample of  
fluid from the joint and test it for urate crystals.

The goals of treatment for gout consist of alleviating pain, avoiding severe attacks  
in the future, and preventing long-term joint damage. In addition to taking pain  
45 medications as prescribed by their doctors, people having gout attacks are encouraged to rest  
and to increase the amount of fluids that they drink.

Once an acute attack has been successfully treated, doctors try to prevent future  
attacks of gout and long-term joint damage by lowering uric acid levels in the blood. Gout  
cannot be cured but usually it can be managed successfully. As tophi (12)**dissolve**, joint  
50 mobility generally improves. Lowering uric acid in the blood also helps to prevent or  
improve the kidney problems that may accompany gout.

1. The word (1)“severe” is closest in meaning to

- (a) strict      (b) distinctive      (c) full      (d) extreme

2. Which of the following sentences is closest in meaning to the underlined part (2)?

- (a) High levels of uric acid producing in the blood are produced by a different form of arthritis, which will cause urate crystals to gather in the joints and may cause gout.
- (b) What makes gout different from other forms of arthritis is that the urate crystals settle in the joint tissues rather than in the blood circulation.
- (c) Gout is caused by an excess of uric acid in the blood, which leads to the buildup of urate crystals in the joint tissues and distinguishes it from other types of arthritis.
- (d) Gout is caused by urate crystals in the joint tissues, while other forms of arthritis are caused by high levels of uric acid in the blood.

3. The word (3)“substance” is closest in meaning to

- (a) poison      (b) density      (c) material      (d) content

4. Which of the following sentences is closest in meaning to the underlined part (4)?

- (a) White blood cells cause redness, swelling, and pain by inflaming the joint where urate crystals have built up because they react as if the urate crystals are foreign invaders.
- (b) White blood cells mistakenly invade the joint and surround the urate crystals in response to the redness, swelling, and pain of inflammation.
- (c) Redness, swelling, and pain cause urate crystals to invade the joint from outside, which attracts white blood cells to the area of inflammation by mistake.
- (d) Urate crystals are mistakenly surrounded by foreign invaders, which attract white blood cells that cause inflammation, producing the redness, swelling, and pain of a gout attack.

5. The word (5)“accumulate” is closest in meaning to  
(a) circulate      (b) degrade      (C) ache      (d) gather
6. The word (6)“tolerate” is closest in meaning to  
(a) condone      (b) endure      (c) permit      (d) sustain
7. The phrase (7)“be accompanied by” is closest in meaning to  
(a) attend to      (b) be caused by      (c) occur with      (d) be parted from
8. The word (8)“recur” is closest in meaning to  
(a) return      (b) react      (c) respond      (d) restore
9. The word (9)“permanent” is closest in meaning to  
(a) inflexible      (b) impossible      (c) irreversible      (d) feasible
10. Which of the following sentences is closest in meaning to the underlined part (10)?
- (a) Gout can be confirmed if there is a likelihood of hyperuricemia, if too much uric acid is present in the blood, or if normal levels of uric acid are ruled out.
- (b) The presence of hyperuricemia makes gout more likely, but only if normal levels of uric acid are ruled out or if high levels of uric acid are confirmed.
- (c) A regular level of uric acid can rule out gout since a high level is necessary to confirm the likelihood of hyperuricemia, which is necessary for gout to be present.
- (d) Hyperuricemia makes the possibility of gout higher, but gout can still be present with regular levels of uric acid or may not be present even if the level of uric acid is above normal.

11. The word (11)“definitive” is closest in meaning to  
(a) conclusive      (b) current      (c) scientific      (d) differential
12. The word (12)“dissolve” is closest in meaning to  
(a) take off      (b) break down      (c) come together      (d) stretch out
13. According to the text, hyperuricemia is caused by  
(a) uric acid being excreted in the urine.  
(b) the kidneys not being able to filter enough uric acid from the blood.  
(c) the body converting urate crystals into purines.  
(d) heavy drinking, infection, surgery, or hospitalization.
14. According to the text, the buildup of urate crystals in the joints  
(a) does not always cause the symptoms of gout right away.  
(b) may begin in the middle of the night.  
(c) does not always lead to hyperuricemia.  
(d) may require surgery.
15. According to the text, gout attacks  
(a) occur less often over time.      (b) are brought on by excruciating pain.  
(c) may happen suddenly.      (d) rarely occur at night.
16. According to the text, gout is diagnosed by  
(a) checking the affected joint for urate crystals.  
(b) looking for the development of a tophus.  
(c) measuring how much uric acid is in the blood.  
(d) all of the above.

17. According to the text, after the initial gout attack has been taken care of, the goal of later treatment is to

- (a) increase the amount of fluids the patient drinks.
- (b) eliminate uric acid from the blood.
- (c) stop attacks from coming again.
- (d) provide a permanent cure.