READING TEST 1

PART A

TIME: 15 minutes

Look at the four texts, A-D, in the separate Text Booklet.
For each question, 1-20, look through the texts, A-D, to find the relevant information.
Write your answers on the spaces provided in this Question Paper.
Answer all the questions within the 15-minute time limit.
Your answers should be correctly spelt.

Text A

Systemic sclerosis (SSc)

Systemic sclerosis (SSc) is a disorder of the connective tissue characterized by fibrosis of the skin, vascular abnormalities, and presence of autoantibodies. It is characterized by excessive deposition of extracellular matrix. Therefore, there is significant heterogeneity in organ progression and prognosis. Interstitial lung disease (ILD) is a heterogeneous group of parenchymal lung disorders that share common radiologic, pathologic, and clinical manifestations. It is characterized by lung parenchyma damage, accompanied by inflammation and fibrosis, and fibrosis is often incurable. The fibrosing forms of ILD are often incurable, and are associated with significant morbidity and mortality. SSc is often accompanied by ILD. The incidence of SSc-ILD in the relevant literature ranges from 45% to 90%. A recent European League Against Rheumatism Scleroderma Trials and Research analysis revealed in a cohort of 3,656 SSc patients that ILD was present in 53% of cases with diffuse cutaneous SSc and in 35% of cases with limited cutaneous SSc.

Text B

NSIP is the more common subtype of inflammation in ILD. 77% of SSc-ILD is NSIP. A large number of clinical and pathological studies have confirmed that a high-resolution CT (HRCT) pattern in patients is correlated with pathologic NSIP and pathologic UIP. NSIP pattern is associated with better patient outcome than UIP pattern. It includes reticular, frosted glass shadows, hollow, thickened honeycomb lung nodules, emphysema, bronchial vascular bundles, bullae, traction bronchiectasis, cobblestone-like

appearance, bronchial tree, bronchiectasis and so on. The most common manifestation of NSIP is lobular reticular formation in the pleural and basal regions. UIP is mainly represented by grid or honeycomb shadow. Different patterns in HRCT can reflect NSIP and UIP. The extent of ILD lesions can be graded according to HRCT. At present, the commonly used methods for clinical detection of ILD are HRCT, pulmonary function tests (PFTs) (react as per sensitivity), bronchoalveolar lavage fluid (BALF), lung biopsy. HRCT has now become the most common and sensitive imaging method for diagnosing ILD as it offers the most detailed images of the lungs.

Text C

KL-6

Krebs von den Lungen-6 (KL-6) is an important serum marker for ILD. It is a high molecular weight, mucin-like glycoprotein secreted by type-II alveolar pneumocytes and bronchial epithelial cells in response to cellular damage and regeneration in patients with ILD. KL-6 is a mucin-associated glycoprotein, which may be a trigger for TGF-β signaling and fibrosis. The level of KL-6 as a predictive factor could be used to identify the clinical development of ILD. Hideaki et al retrospectively analyzed the medical records of 29 patients with SSc-ILD. They found serum KL-6 correlated positively with diffusing capacity of the lung for carbon monoxide (DLCO)(% predicted) and disease extent on HRCT, and the changes in serum levels of KL-6 were significantly related to the changes in forced vital capacity (FVC) in SSc -associated ILD. Their study suggests KL-6 can be a useful monitoring tool of SSc-ILD activity.

Text D

SP-D

Surfactant, a lipoprotein complex, was originally described for its essential role in reducing surface tension at the air-liquid interface of the lung. However, it is now recognized as being a critical component in lung immune host defense. They include SP-B and SP-C and hydrophilic proteins SP-A and SP-D . SP-D levels are more sensitive than SP-A in detecting ILD as defined by CT. The sensitivities and specificities for detecting CT-positive ILD in 42 patients with SSc were 33% and 100% for SP-A and 77% and 83% for SP-D, respectively. In a small but prospective study of 35 patients with

SSc-ILD followed over 1-10 years, SP-D levels were seen to definitely increase over time in 9 out of the 10 patients with worsening ILD, as defined by changes in symptoms, lung function, and imaging, compared to mild increases in only 3 out of 25 patients with stable or improving SSc-ILD. Therefore, SP-D is closely related to SSc-ILD. In addition, Takahashi H et al. found a less-invasive and lung-specific clinical biomarker. They found the levels of SP-D in sera were significantly higher in the CT-positive ILD group than in the CT-negative ILD group.

Questions 1-7

For each question, 1-7, decide which text (A, B, C or D) the information comes from. You may use any letter more than once.

In which text can you find information about;

1. One of the major aspects of assessment of the how ILD may develop._____

2. Detection or assessment of the ILD lesions._____

3. Talk of naturally occurring molecule, gene, or characteristic by which a particular pathological or physiological process, disease, etc. can be identified._____

4.Common features of the disease._____

5. Production of the protein in response to damage to cell_____

SSc more commonly occurs with the ILD.

7. A more common form of interstitial lung disease_____

Answer each of the questions, 8-14, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

8. What are known to be more sensitive to change?_____

9. What is known to be closely related to SSc-ILD?_____

10. Which is an important serum marker for interstitial lung disease? _____

11. What are the major characteristics of UIP? _____

12. What is known to play a major role with respect to lung immune host defense? - _____

13. What can be considered a perfect monitoring tool of SSc-ILD activity? _____

14. Which lipoprotein complex plays an essential role in reducing surface tension at the air-liquid interface of the lung?

Answer _____

Questions 15-20

Complete each of the sentences, 15-20, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

15_._____ is a form of lung disease characterized by progressive scarring of both lungs

16._____ are recorded to have shown a remarkable increase with more deteriorating ILD conditions.

17 .As per HRCT, it can be easy to analyze the extent of the _____

18. The sensitivities in detecting CT-positive ILD was _____ SP-D.

19 .The surfactant may include_____ and hydrophilic proteins.

20 .There are four major methods for clinical detection of

PART B

1. What does this notice explain?

A Effects of obesity.

B Effects of weight loss.

C How weight loss is correlated to other diseases

In this part of the test, there are six short extracts relating to the work of health professionals. For questions 1-6, choose the answer (A, B or C) which you think fits best according to the text.

1. Obesity - Weight Loss

The relationship between obesity, weight loss, and disease control has been investigated among patients already diagnosed with chronic diseases. Health benefits of weight loss in chronic diseases include improvements in cholesterol levels, decreased risk of cardiovascular events, and improved quality of life. Among patients with hypertension, patients that lost ≥5 kg had improved blood pressure. Weight loss of ≥5% was associated with improved glycemic control in patients with diabetes mellitus. In patients with osteoarthritis, weight loss of ≥5% was associated with improvement in joint symptoms. Weight loss of ≥5% was also associated with low/remission disease activity in patients with psoriatic arthritis.

2 Hemophagocyticlymphohistiocytosis.

A Is a rare disease.

B Is potentially fatal.

C Occurs in all ages.Hemophagocyticlymphohistiocytosis

Hemophagocyticlymphohistiocytosis (HLH) is the clinical manifestation of a wide array of different entities, which include primary or familial hemophagocyticlymphohistiocytosis (FHLH) and secondary forms and can lead to deteriorating conditions and eventually loss of proper body mechanism. The hallmark is hemophagocytosis, appearance of activated macrophages that have engulfed other haematopoietic elements. FHLH, mainly documented in early infancy, is related to familiar inheritance or genetic causes. Secondary forms (SHLH), also called reactive HLH, are frequently diagnosed in adults and refer to cases with underlying infection, malignancy or autoimmune disease. Over the last decade immunosuppression, immunodeficiency, autoinflammatory diseases and inborn errors of metabolism have been also described as triggering diseases. Macrophage activation syndrome (MAS) is a secondary form, recently reported in patients with autoimmune or autoinflammatory diseases, especially patients with systemic juvenile idiopathic arthritis (SJIA),

3. Granulomatousâ Lymphocytic Interstitial Lung Disease;

A Complication of common variable immunodeficiency disorders.

B Can effectively be cured by using drugs that can bring in great change in immune response.

C Appears majorly due to activity of T and B lymphocytes

Granulomatous– Lymphocytic Interstitial Lung Disease (GLILD)

Granulomatous– Lymphocytic Interstitial Lung Disease (GLILD is an inflammatory pulmonary complication of common variable immunodeficiency (CVID) with distinctive patterns in the biopsy; granulomatous disease, lymphocytic interstitial disease, follicular bronchiolitis and areas of organizing pneumonia. The immunological data of the pathophysiology suggests that it is initiated by an infiltration of T as well as B lymphocytes and macrophages, that will further lead the progression of the inflammatory process to fibrosis. Regarding the treatment of this disease there are many immunomodulatory treatments with few standardized protocols, but recent studies suggest that the combination of Rituximab and Azathioprine could be effective for preserving the pulmonary function

4. What is correct about MCP?

A MCP-1 may play an important role in the development of pulmonary fibrosis in SSc.

B The abnormal accumulation of macrophages will lead to the production of MCP-1

C There is not much evidence to show that ILD is directly interlinked to collagen.CCL2 is known as monocyte c

hemoattractant protein-1 (MCP-1). MCP-1 is a member of the C-C chemokines. In vivo studies suggest that MCP-1 recruits monocytes/ macrophages to sites of inflammation in a wide variety of pathological conditions, including ILD. The plasma level of CCL2 is correlated with FVC value in SSc. However, there was no correlation between ILD severity and primary fibrotic genes such as collagen. That might be because skin fibrosis peaks early during the course of SSc and improves later, while fibrosis in pulmonary tissue continues to progress even at later stages of disease. A study examined serum levels, spontaneous production by peripheral blood mononuclear cells (PBMC), and histological distribution in the affected skin, of MCP-1. Elevated serum levels of MCP-1 significantly correlated with the presence of pulmonary fibrosis. MCP-1 was expressed in mononuclear cells or vascular endothelial cells in 41% (9/22) of SSc patients. The frequency of infiltrating mononuclear cells and endothelial cells that produced MCP-1 was significantly higher in SSc patients with early onset than in SSc patients with late onset.

5.What information does this table provide?

A Shows the clinical decision outcomes of the FRAX 10-year Hip and Major Osteoporotic fracture risk score thresholds.

B The thresholds based on the FRAX MOF risk score with DXA.

C The thresholds based on the FRAX HF risk score with or without DXA.

6. The table clearly shows that;

A. there are high differences in serum CXCL10 concentration between SSA positive and SSA negative subjects.

B. The RF-positive group had significantly elevated score.

C. The RF-positive group had an average CXCL10 concentration for the RF-negative group.

PART C

In this part of the test, there are two texts about different aspects of healthcare. For questions 7-22, choose the answer (A, B, C or D) which you think fits best according to the text.

Text 1: Classification of Seizures

In order to communicate about types of seizures, epilepsy specialists have developed a classification system for seizures. This system is not based on any fundamental property of seizures, but rather on committee-generated conventions of terminology. Classification is as follows: partial seizures and generalized seizures. Partial seizures are further divided into simple partial seizures with no alteration of consciousness or memory, or complex partial seizures with alteration of consciousness or memory. Simple partial seizures can be motor seizures with twitching, abnormal sensations, abnormal visions, sounds or smells, and distortions of perception. Seizure activity can spread to the autonomic nervous system, resulting in flushing, tingling, or nausea. If the patient becomes confused or cannot remember what is happening during the seizure, then the seizure is classified as a complex partial seizure. Previously, they were called "psychomotor seizures", "temporal lobe seizures" or "limbic seizures". During the complex partial seizure, patients may fumble or perform automatic fragments of activity such as lip smacking, picking at their clothes, walking around aimlessly, or saying nonsense phrases over and over again; these purposeless activities are called automatisms. About 75% of people with complex partial seizures have automatisms; those who do not simply stop stare and blank out for a few seconds or minutes.

Generalized seizures are divided into absence seizures and tonic-clonic seizures. Absence seizures were previously called petit mal seizures and usually have onset in childhood, but they can persist into adulthood. Absence seizures present with staring spells lasting several seconds, sometimes in conjunction with eyelid fluttering or head nodding. These seizures can be difficult to distinguish from complex partial seizures that may also result in staring. Usually, absence seizures are briefer and permit quicker recovery. Generalized

tonic-clonic seizures were previously called grand mal seizures; these seizures start with sudden loss of consciousness and tonic activity (stiffening) followed by clonic activity (rhythmic jerking) of the limbs. The patient's eyes will roll up at the beginning of the seizure and the patient will typically emit a cry, not because of pain, but because of contraction of the respiratory muscles against a closed throat. Generalized tonic-clonic seizures usually last one to three minutes.

Seizures that begin focally can spread to the entire brain, in which case a tonic-clonic seizure ensues. It is important, however, to distinguish those that are true grand mal, generalized from the start, from those that start focally and secondarily generalize. Secondarily generalized seizures arise from a part of the brain that is focally abnormal. Drugs used to treat primary and secondary generalized tonic-clonic seizures are different: patients with secondarily generalized tonic-clonic seizures may be candidates for curative epilepsy surgery, whereas primarily generalized tonic-clonic seizures are not surgical candidates, because there is no seizure origin site (focus) to remove.

Atonic seizures are epileptic drop attacks. Atonic seizures typically occur in children or adults with widespread brain injuries. People with atonic seizures suddenly become limp and may fall to the ground and football helmets are sometimes required to protect against serious injuries. A myoclonic seizure is a brief un-sustained jerk or series of jerks, less organized than the rhythmic jerks seen during a generalized tonic-clonic seizure. Other specialized seizure types are occasionally encountered. Tonic seizures involve stiffening of muscles as the primary seizure manifestation: arms or legs may extend forward or up into the air; consciousness may or may not be lost. By definition, the clonic (jerking) phase is absent. Classification can be difficult, because stiffening is a feature of many complex partial seizures. Tonic seizures, however, are much less common than complex partial or tonic-clonic seizures. Patients can have more than one seizure type. One seizure type may progress into another as the electrical activity spreads throughout the brain. A typical progression is from a simple partial seizure, to a complex partial seizure (when the patient becomes confused), to a secondarily generalized tonic-clonic seizure (when the electrical activity has spread throughout the entire brain). The brain has control mechanisms to keep seizures localized. Antiepileptic medications enhance the ability of the brain to limit the spread of a seizure.

Text 1: Questions 7-14

7 .Motor seizures are;

A Simple partial seizures

B Partial seizures

C Complex seizures

D Complex partial seizures

8. 8 In which type of seizure does the patient generally not remember what is happening around them?

C Complex partial seizures

D Partial temporal lobe seizures

9 Which one of these activities are related to automatism?

A Fumbling

10. 10 Which seizures last for one to three minutes?

A Simple partial seizures

B Tonic-clonic seizures

C Absence seizures

D None

11. Which type of seizure occurs in childhood and may persist into adulthood? A Grand mal seizures

B Petit mal seizures

C Both A and B

D None

12 Which seizures arise from a focally abnormal part of the brain? A Petit mal seizures

B Grand mal seizures

C Secondarily generalized seizures D Both B and C

13 As per the given information, who may undergo surgery? A Patients with grand mal seizures

B Patients with secondarily generalized seizures

C Patients with primarily generalized tonic-clonic seizures D Both B and C

14 Which one of the following statements correctly describes tonic seizures?

A Rhythmic jerking

B Stiffening of muscles

C Loss of consciousness D None

Text 2: Fascioliasis Infection

Fascioliasis is a parasitic infection typically caused by Fasciola hepatica, which is also known as "the common liver fluke" or "the sheep liver fluke." A related parasite, Fasciolagigantica, can also infect people. Fascioliasis is found in all 5 continents, in over 50 countries, especially where sheep or cattle are reared. People usually become infected by eating raw watercress or other water-based plants contaminated with immature parasite larvae. The immature larval flukes migrate through the intestinal wall, the abdominal cavity, and the liver tissue, into the bile ducts, where they develop into mature adult flukes, which produce eggs. Typically, the pathology is most pronounced in the bile ducts and liver. A Fasciola infection is both treatable and preventable.

The standard way to be sure a person is infected with Fasciola is by seeing the parasite - this is usually done by finding Fasciola eggs in stool (fecal) specimens examined under a microscope. More than one specimen may need to be examined to find the parasite. Sometimes eggs are found by examining duodenal contents or bile. Infected people don't start passing eggs until they have been infected for several months; people don't pass eggs during the acute phase of the infection. Therefore, early on, the infection has to be diagnosed in other ways than by examining stool. Even during the chronic phase of infection, it can be difficult to find eggs in stool specimens from people who have light infections

Fasciola parasites develop into adult flukes in the bile ducts of infected mammals, which pass immature Fasciola eggs in their feces. The next part of the life cycle occurs in freshwater. After several weeks, the eggs hatch, producing a parasite form known as the miracidium, which then infects a snail host. Under optimal conditions, the development process in the snail may be completed in 5 to 7 weeks; cercariae are then shed in the water around the snail. The cercariae lose their tails when they encyst as metacercariae (infective larvae) on water plants. In contrast to cercariae, metacercariae have a hard outer cyst wall and can survive for prolonged periods in wet environments.

Immature Fasciola eggs are discharged in the biliary ducts and in the stool. Eggs become embryonated in water; eggs release miracidia, which invade a suitable snail intermediate host, including the genera Galba, fossaria and pseudosuccinea. In the snail the parasites undergo several developmental stages: sporocysts, rediae, and cercariae. The cercariae are released from the snail and encyst as metacercariae on aquatic vegetation or other

surfaces. Mammals acquire the infection by eating vegetation containing metacercariae whereas humans can become infected by ingesting metacercariae-containing freshwater plants, especially watercress. After ingestion, the metacercariaeexcyst in the duodenum and migrate through the intestinal wall, the peritoneal cavity, and the liver parenchyma into the biliary ducts, where they develop into adult flukes.

No vaccine is available to protect people against Fasciola infection. In some areas of the world where Fascioliasis is found (endemic), special control programs are in place or are planned. The types of control measures depend on the setting (such as epidemiologic, ecologic, and cultural factors). Strict control of the growth and sale of watercress and other edible water plants is important. Individual people can protect themselves by not eating raw watercress and other water plants, especially from endemic grazing areas. As always, travelers to areas with poor sanitation should avoid food and water that might be contaminated (tainted). Vegetables grown in fields that might have been irrigated with polluted water should be thoroughly cooked, as should viscera from potentially infected animals

In the early (acute) phase, symptoms can occur as a result of the parasite's migration from the intestine to and through the liver. Symptoms can include gastrointestinal problems such as nausea, vomiting, and abdominal pain/tenderness. In addition, fever, rashes and difficulty breathing may occur. During the chronic phase (after the parasite settles in the bile ducts), the clinical manifestations may be similar or more discrete, reflecting inflammation and blockage of bile ducts, which can be intermittent. Inflammation of the liver, gallbladder and pancreas can also occur.

15 Which one of the following statements is correct?

A. Infection caused by Fasciola spreads faster than any other types of infections

B Infection by Fasciola is deadly

C Infection by Fasciola is treatable

D Infection by Fasciola is very common

16 In which phase is it not easy to find the eggs in the stool?

A Chronic phase

B Infective phase

C Acute phase

D A and B

17. Paragraph 3 talks about which of the

following; A Biology of Fasciola hepatica

B Time period in a snail

C Initial stages of the development of the parasite

D Complete life cycle

18. Which of these forms survives for a longer period of

time? A Cercariae

BMetacercariae

C Miracidia

D Fasciola eggs

18 .Which of these forms survives for a longer period of

time? A Cercariae

B Metacercariae

C Miracidia

D Fasciola eggs

20. Excystation occurs in which of these?

AIntestinal wall

B Duodenum

C Peritoneal cavity

D Liver

21. Paragraph 5 talks about which of these

topics? A Prevention and control

B Availability of the treatment for the infection

C Drugs to be used

D A and C

22 .Which of these topics does paragraph 6 talk

about? A How infection is controlled

B How infection spreads through bile ducts and liver

C How infection is prevented from spreading to different parts

D Possibility of infection spreading to other parts of the body

A

nswer Key

1 C

2.B

3 D

4 A

5 C

6 A

7 B

8.: HRCT and PFTs

9. Sp-d

10.KL-6

11 grid or honeycomb shadow

12.Surfactant

13.KL-6

14.Surfactant

15 Usual Interstitial Pneumonia (uip)

16 Sp-d Levels

17 Ild Lesions

18.: 83%

19 Sp-b And Sp-c

20 Ild

Part B

1.How weight loss is correlated to other diseases.

2 Is potentially fatal.

3.Can effectively be cured by using drugs that can bring in great change in immune response.

4.MCP-1 may play an important role in the development of pulmonary fibrosis in SSc

5 Shows the clinical decision outcomes of the FRAX 10-year Hip and Major Osteoporotic fracture risk score thresholds.

6.The RF-positive group had an average CXCL10 concentration for the RF-negative group.

Part C

7.Simple partial seizures

8 Complex partial seizures

9.Lip smacking

10.Tonic-clonic seizures

11.Petit mal seizures

12. Secondarily generalized seizures

13. Patients with secondarily generalized seizures

14.Loss of consciousness

15. Infection by Fasciola is treatable

16.Chronic phase

17.Initial stages of the development of the parasite

18.Metacercariae

19. How animals get infected

20 Duodenum

21.Prevention and control

22. Possibility of infection spreading to other parts of the body