READING TEST 3

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

Rheumatoid arthritis (RA) has wide variability in both its clinical presentation and its autoantibody profile. Two well-known autoantibodies that are found in between 60-90% of RA patients are rheumatoid factor (RF) and cyclic citrullinated peptide (CCP) antibody. Seropositivity for these antibodies is associated with more destructive joint pathology and radiographic progression of RA. Anti-Sjogren's Syndrome related Antigen A (SSA) is associated with numerous autoimmune conditions, including most notably Sjogren's Syndrome. Anti-SSA is also found in between 3-16% of RA patients and it is believed to be a clinical indicator of poor prognosis in RA. Several studies have shown that RA patients with this antibody have a lesser clinical response to infliximab. Anti-SSA seropositivity is also associated with secondary Sjogren's Syndrome. RA with secondary Sjogren's Syndrome is associated with worse clinical manifestations and increased antinuclear antibody (ANA) positivity. The prevalence of ANA and anti-SSA has been shown to be higher in African American (AA) RA patients compared to Caucasian (CAU) RA patients in two established RA cohorts.

Text B

In RA, inflammatory cytokines such as tumor necrosis factor-alpha (TNF-α) and interferon-gamma (IFN-γ) are the primary inducers of chemokine production. Chemokines then lead to increased numbers of inflammatory cells, such as macrophages,

lymphocytes, and fibroblast-like synoviocytes, in inflamed synovial tissue. Chemokines also contribute to cartilage degradation and pannus formation by stimulating the release of various inflammatory cytokines. Several studies have shown that serum chemokines including CX3CL1, CCL5, CXCL9, and CXCL10 are increased in active RA patients compared to healthy controls.. Particularly, several studies have found that CXCL10 could serve as a disease activity marker in RA. Elevated CXCL10 and CXCL13 levels have been shown to be predictive of a favorable response to TNF inhibitor therapy. Studies have also shown that serum chemokine levels, including CXCL9, CXCL10 and CXCL16 decrease after treatment with disease-modifying antirheumatic drugs or biologic agents.

Text C

Previous studies have shown a wide variation in anti-SSA prevalence across different RA populations. It is possible that the increased frequency of anti- SSA in AA subjects may be due to an increased frequency of secondary Sjogren's Syndrome. Co-existent RA and SS may then partially explain the increased disease activity and worse clinical outcomes seen in AA RA patients. However, it was not possible to determine the prevalence of Sjogren's Syndrome in our cohort with the available data. The AA group also had a higher prevalence of anti-SSB than the CAU group (4.26% vs. 1.08%). This was not a statistically significant difference; however, there were only 5 total patients that were anti-SSB positive. The biological and clinical implications of the increased prevalence of anti-SSA and ANA in AA RA patients are currently unknown. However, several studies have suggested that autoantibody profiles may be clinically significant. Specifically, anti-SSA has been shown to be associated with more severe disease in multiple connective tissue disease and it is also involved in the molecular pathogenesis of immune dysregulation in Sjogren's Syndrome.

Text D

In RA, a predominance of Th17 cytokines, including IFN-γ and TNF have been suggested to be of pathological importance. IFN-γ induces several chemokines including CXCL9, CXCL10, and CXCL11. Increased CXCL10 has been detected in the serum and synovial fluid of RA patients and in the saliva of Sjogren's Syndrome patients compared to healthy controls. Additionally, this chemokine may have clinical significance as a human phase II clinical trial using an anti-CXCL10 monoclonal antibody (MDX-1100) showed a significantly increased response rate in RA patients who had an inadequate response to methotrexate therapy. The study revealed an association between RF

seropositivity and increased CXCL10 levels but it found no association between anti-SSA positivity and CXCL10. Therefore, while the increased clinical severity seen in AA RA patients may be associated with a higher prevalence of anti-SSA, the presence of this autoantibody does not appear to directly affect the expression of CXCL10.

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 Not much difference in data found.

Answer _____

2 Enhanced clinical response observed in AA RA patients.

Answer _____

3 doesn't create a more effective response with respect to drug.

Answer _____

4 Their name is derived from their ability to induce directed chemotaxis in nearby responsive cells.

Answer _____

5 Despite differences in autoantibody prevalence, it is currently unknown if there is a higher. occurrence of clinically diagnosed Sjogren's Syndrome in AA RA patients.

Answer _____

6 The AA group is reported to have a large number of anti-SSB.

Answer _____

7 signaling protein involved in systemic inflammation.

Answer _____

Questions 8-14

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 is referred to as chemoattractant, which is induced by IFN-γ?

Answer _____

9 What is recommended to be of more importance pathologically?

Answer _____

10 What do previous studies indicate?

Answer _____

11 What is known to be more connected with the severity of multiple connective tissue disease?

Answer _____

12 What can work as a disease activity marker in RA?

Answer _____

13 What usually increases in RA patients?

Answer

14 What does the study suggest with respect to CXCL10?

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 _____levels often go down when target-specific drugs are used.

16 Anti-SSA is found in between _____ of RA patients

17 _____can be defined as having or being a positive serum reaction especially in a test for the presence of an antibody

18 Increased_____ levels are known to be predictive of a favorable response to TNF inhibitor therapy.

19 The reason for the increased frequency of _____can be directly linked to enhanced frequency of secondary Sjogren's Syndrome.

20 The research performed clearly indicate that there is no association between anti-SSA positivity and_____

PART B

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 The manual talks about;

- Steps to improving interpersonal communication with patients.
- How to effectively deal with the patients.
- Steps with regard to clinician-patient communication.

1

Important Steps - Dealing With Patients

1. Slow down. Communication can be improved by speaking slowly, and by spending just a small amount of additional time with each patient. This will help foster a patient-centered approach to the clinician-patient interaction. 2. Use plain, nonmedical language. Explain things to patients like you would explain them to your grandmother. 3. Show or draw pictures. Visual images can improve the patient's recall of ideas. 4. Limit the amount of information provided— and repeat it. Information is best remembered when it is given in small pieces that are pertinent to the tasks at hand. Repetition further enhances recall. 5. Use the "teach-back" technique. Confirm that patients understand by asking them to repeat back your instructions. 6. Create a shame-free environment: Encourage questions. Make patients feel comfortable asking questions. Consider using the Ask-Me-3 program. Enlist the aid of others (patient's family or friends) to promote understanding.

2 Duodenal duplication;

- is associated with various anomalies.
- can occur in two different ways.
- Is a benign congenital defect, acquired during the embryonic development of the digestive tract

2

Duodenal duplication

Duodenal duplication is an extremely rare pathology. It represents 4 % of all digestive tract congenital malformations. It is often connected with intestinal malrotation, scalloped vertebras). In one of the cases, the degeneration arose on mucous membrane of gastric type within the cyst of duplication and in the second it was duodenal mucous membrane.

The diagnosis of cancer was made in both cases on the surgical pieces at anatomopathology. There had been no biopsy within the cyst. This malformation appears in 70% of the cases before one year of the age but the late revelation is possible. The digestive obstruction is the most frequent mode of revelation. Acute pancreatitis was reported and sometimes the diagnosis can be delayed many years. The duodenal duplication, the anomaly of the embryogenesis, is diagnosed most of the time in the childhood, even by prenatal diagnosis. The average age at the time of the diagnosis is from four months to nine years. Prevalence is lightly in favour of the male.

3 Anti-reabsorption medications;

- Comprised of agents which limit the rate of bone loss.
- Decrease the rate at which osteoclasts resorb bone.
- Can have a detrimental effect on elderly people.

3

Anti-reabsorption medications

Presently, anti-reabsorption medications are most widely used for treating osteoporosis. Zoledronic acid (Aclasta) is a common clinical anti-reabsorption medication. As the third generation of bisphosphonates (BPs), it outperforms the previous nitrogen-containing BPs in improving patients' balance and quality of life by inhibiting bone resorption and increasing bone mineral density (BMD). It is administered via intravenous drip infusion once a year, which, therefore, brings good compliance with treatment. However, those who have been treated with zoledronic acid intravenously are likely to suffer from acute side effects, such as fever, bone and joint pain and flu-like symptoms, especially after the first administration. Although the common adverse reactions generally disappear within 72 h, or in rare cases, last 7 to 10 days without recurrence, they have serious impacts on the aging population, especially those with underlying diseases. Thus, the patients who are afraid of any adverse reactions or have suffered from any side effects during the first

administration may show poor compliance with the second dose and refuse the clinical application of zoledronic acid.

4 The given notice talks about;

- How cancer has successfully been dealt with in todayâ€™s advanced scientific world.
- Effective cancer treatment has resulted in many cancer patients.
- Future course of action.

4

Cancer - Brief Overview

Historically, individuals with cancer have rarely survived past the latency periods inherent to the development of treatment-induced malignancies, but improvements in systemic and radiation therapy have increased the time for these second primaries to emerge. In the past 15 years, advances in cancer diagnostics, therapy and supportive care have significantly increased disease-free survival and overall survival rates in cancer patients. A proper care plan is reported to have increased 10 or more years beyond their initial diagnosis and introduced the potential for secondary cancers induced by therapy. It is possible that the incidence of treatment-induced cancers may increase in the future. Long-term toxicity of cancer treatments both from systemic chemotherapy and radiation therapy become an important survivorship concern for patients and their physicians.

5 What is correct about the surgery performed?

- On average, hospitalization was 7 days and surgery time was 2 hours.
- The majority of patients remained hospitalized for 5 days or more

Evaluated Factor	n	%	p-value[1]

performed right knee arthroplasty (TRKA) more on males than females.

The table shows the distribution of the characteristics of the surgery performed.

Length of hospital stay			
4 days	16	30.8	0.926
5 days	18	34.6	
6 or more	18	34.6	
Minimum-maximum	4 - 51		-
Average ± Standard Deviation	7.2 ± 8.5		-
Type of surgery			
TKAâ€•right knee	38	47.5	0.655
TKAâ€•left knee	42	52.5	
Duration of surgery (in hours)			
Up to 2 hours	15	18.5	<0.001
Between 2 and 3 hours	60	74.1	
Above 3 hours	6	7.4	
Minimum-maximum	1.6 - 3.3		-
Average ± Standard Deviation	2.4 ± 0.4		-

6 The table clearly shows that;

- The majority of the patients were male.

- People who are aged 60-70 are more in number.
- The majority of the patients were females.

Distribution of the personal profile of evaluated patients.

Factor evaluated	n	%	p-value[1]
Gender			
Male	17	21.0	<0.001
Female	64	79.0	
Age			
Less than 60 years	19	23.5	0.028
60 to 70 years	38	46.9	
Over 70 years	24	29.6	

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: Paget's Disease

Paget's disease of the bone is an unusual, chronic bone condition that occurs in only about 1% of people in the United States and slightly more often in men than in women (3 to 2). Individuals with Paget's disease experience rapid bone repair, which causes a variety of symptoms from softer bones to enlarged bone growth, typically in the pelvis, lower back (spine), hips, thighs, head (skull) and arms. Medical therapies have proven effective in reducing the frequency of pain, fractures and arthritis that may be caused by this condition. Paget's disease typically occurs in the older population and usually only in a few of their bones. Bones become large and soft, leading to problems such as bending, breaking, pinched nerves, arthritis and reduced hearing. Effective and safe treatment methods can help most people with Paget's disease.

Normally, as people age, their bones rebuild at a slower rate. For those with Paget's disease, however, this process of rebuilding bones takes place at a faster rate. As a result, the rebuilt bone has an abnormal structure. The involved bone can be soft, leading to weakness and bending of the pelvis, lower back (spine), hips, thighs, head and arms. Or, the rebuilt bone can enlarge, making it more susceptible to arthritis, hearing loss, fractures and discomfort. Given that this takes place in those over the age of 40, the symptoms are often mistaken for changes associated with aging.

The cause of Paget's disease is unknown. It does appear to be, at least partially, hereditary, perhaps when activated by exposure to a virus. Indicative of the hereditary consideration: Paget's disease occurs more commonly in European populations and their descendants. In 30% of cases, disease incidents often involve more than one member of a family. Paget's is rarely discovered in individuals before they reach the age of 40, and the number of people identified increases in each progressive age group. Typically, it is the appearance of the bones on an X-ray that prompts the physician to make the diagnosis. Blood tests taken most often will indicate an increase in serum alkaline phosphatase (SAP), which is reflective of the rapid new bone turnover. Urine test results will also indicate the speed at which this rebuilding is taking place. Physicians usually obtain a non-invasive bone scan to determine the extent of bone involvement. Only if cancer is suspected will it be necessary to do a bone biopsy to examine it under a microscope.

Treatment approaches can focus on providing physical assistance, including the addition of wedges in the shoe, canes as walking aids and the administration of physical therapy (this is considered to be the best). Medications that help reduce the pain associated with Paget's include acetaminophen (e.g. Tylenol) and anti-inflammatory drugs such as ibuprofen and naproxen. In addition, a group of medications called bisphosphonates reduce the pain and help the body regulate the bone-building process to stimulate more normal bone growth. Your physician may prescribe an oral medication such as Alendronate (Fosamax) or etidronate (Didronel) to be taken orally every day for 6 months; Tiludronate (Skelid) to be taken orally every day for 3 months, Risedronate (Actonel) to be taken orally every day for 2 months. All oral medications should be taken with a large glass of water (6-8 oz) upon rising in the morning. Patients should remain upright for the next 30 minutes and not eat until that time has passed. Any of these treatments can be repeated if necessary. Side effects of these medicines may involve heartburn and sometimes an increase in bone pain for a short period of time.

There are also injectable medications that can be given to a patient for Paget's which include Pamidronate (Aredia), which is injected into the vein once a month or once every few months. The injection takes a few hours. Unusually, there is inflammation of the eye or loss of bone around the teeth (osteonecrosis); Zoledronate (Reclast), which is injected in the vein once a year. The injection takes less than 30 minutes; Calcitonin, a hormone that is injected under the skin several times a week. Surgery for arthritis caused by Paget's disease is effective in reducing pain and improving function. Medical treatment is not expected to correct some of the changes of the Paget's disease that have already occurred, such as hearing loss, deformity or osteoarthritis.

Text 2: Pancreatic Cancer

Cancer is a class of diseases characterized by out-of-control cell growth, and pancreatic cancer occurs when this uncontrolled cell growth begins in the pancreas. Rather than developing into healthy, normal pancreas tissue, these abnormal cells continue dividing and form lumps or masses of tissue called tumors. Tumors then interfere with the main functions of the pancreas. If a tumor stays in one spot and demonstrates limited growth, it is generally considered to be benign. More dangerous, or malignant, tumors form when the cancer cells migrate to other parts of the body through the blood or lymph systems.

When a tumor successfully spreads to other parts of the body and grows, invading and destroying other healthy tissues, it is said to have metastasized. This process itself is called metastasis, and the result is a more serious condition that is very difficult to treat. In the United States each year, over 30,000 people are diagnosed with pancreatic cancer. Europe sees more than 60,000 diagnosed each year. In Asian countries, numbers can be even higher than that.

Pancreatic cancer is categorized depending on whether it affects the exocrine or endocrine functions of the pancreas. There is an important distinction between the two broad types of pancreatic cancer because they have different risk factors, causes, symptoms, diagnostic tests, treatments, and prognosis. Tumors that affect the exocrine functions are the most common type of pancreatic cancer. Sometimes these tumors or cysts are benign, called cystadenomas. However, it is more likely to find malignant tumors called adenocarcinomas, which account for 95% of exocrine pancreatic cancers. Adenocarcinomas typically start in gland cells in the ducts of the pancreas, but they can also arise from pancreatic enzyme cells (acinar cell carcinoma). Other types of pancreatic cancers that are associated with exocrine functions include adenosquamous carcinomas, squamous cell carcinomas, and giant cell carcinomas, named for their appearances underneath a microscope. There is also a disease called ampullary cancer (carcinoma of the ampulla of Vater) that starts where the bile duct and pancreatic duct meet the duodenum of the small intestine.

Cancer is ultimately the result of cells that grow uncontrollably and do not die. Normal cells in the body follow an orderly path of growth, division, and death. Programmed cell death is called apoptosis, and when this process breaks down, cancer occurs. Pancreatic cancer cells do not experience programmatic death, but instead, continue to grow and divide. Although scientists do not know exactly what causes these cells to behave in this way, they have identified several potential risk factors. Cancer can be the result of a genetic predisposition that is inherited from family members. It is possible to be born with certain genetic mutations or a fault in a gene that makes one statistically more likely to develop cancer later in life.

About 10% of pancreatic cancers are thought to be caused by inherited gene mutations. Genetic syndromes that are associated with pancreatic cancer include hereditary breast

and ovarian cancer syndrome, melanoma, pancreatitis, and non-polyposis colorectal cancer (Lynch syndrome).

Carcinogens are a class of substances that are directly responsible for damaging DNA, promoting or aiding cancer. Certain pesticides (dyes may also be included in this list here), and chemicals used in purification of the metal are thought to be carcinogenic, increasing the risk of developing pancreatic cancer. When our bodies are exposed to carcinogens, free radicals have formed that try to steal electrons from other molecules in the body. These free radicals damage cells, affecting their ability to function normally, and the result can be cancerous growths. As we age, there is an increase in the number of possible cancer-causing mutations in our DNA. This makes age an important risk factor for pancreatic cancer, especially for those over the age of 60. There are several other diseases that have been associated with an increased risk of cancer of the pancreas. These include cirrhosis or scarring of the liver, Helicobacter pylori infection (infection of the stomach with the ulcer-causing bacteria H. pylori), diabetes mellitus, chronic pancreatitis (inflammation of the pancreas), and gingivitis or periodontal disease.

In order to detect pancreatic cancer, physicians will request a complete physical examination as well as personal and family medical histories. The way in which cancer presents itself will differ depending on whether the tumor is in the head or the tail of the pancreas. Tail tumors present with pain and weight loss while head tumors present with steatorrhea, weight loss, and jaundice. Doctors also look for recent onset of atypical diabetes mellitus, Trousseau's sign, and recent pancreatitis. In general, when making a pancreatic cancer diagnosis, physicians pay special attention to common symptoms such as abdominal or back pain, weight loss, poor appetite, tiredness, irritability, digestive problems, gallbladder enlargement, blood clots (deep venous thrombosis (DVT) or pulmonary embolism), fatty tissue abnormalities, diabetes, swelling of lymph nodes, diarrhea, steatorrhea, and jaundice.

Text 1: Questions 7-14

7 Pagets disease;

- Affects more women than men;
- Affects 3 men in 4.
- Affects 3 women in 4.
- Affects a higher number of men than women.

8 Pagets disease can lead to;

- Bone disorder.
- Softening of bones.
- Arthritis in its final stage.
- None of the above.

9 Pagets disease is a condition in which;

- Bones become large and soft.
- Rebuilding of bones is stopped.
- Pelvis bends at a faster rate.
- Rebuilding of bone is accelerated.

10 Reformation of the bones can lead to;

- Lower back pain, loss of hearing and discomfort.
- Arthritis, loss of hearing and softening of bone tissues.
- Fractures and discomfort only.
- All of the above.

11 Which of the following statements is right as per the given information in the passage?

- If one member of the family is affected with Pagets disease then other members will also be affected.
- If one member of the family is known to have Pagets disease then others can also be affected.
- Pagets disease is highly hereditary.
- Pagets disease, is both heritable and inheritable.

12 Pick the correct statement as per the given information in the passage;

- Those who reach the age of 40 shall undergo blood tests and urine tests for the identification of Pagets disease.
- Physicians should always advise the patients to go for a non-invasive bone scan.
- Increase is indicative of the development of the bone at a rapid speed.
- It is necessary to do a biopsy of the bone to understand the nature of the disease.

13 What is right about oral medications?

- May increase bone pain.
- Should be taken only during the morning.
- May disturb physiological function.
- All of the above.

14 Which of the following statements is incorrect as per the given information in the passage?

- Pagets disease is a condition which can lead to arthritis.
- Surgery can get rid of Pagets disease.
- Surgery of arthritis which occurred due to Pagets disease can only reduce the pain associated with it.

- Medical treatment will not correct a loss in hearing or deformity or osteoarthritis which resulted from it.

Text 2: Questions 15-22

15 Pancreatic tumors can be;

- Benign
- Malignant
- Benign and malignant
- None

16 Metastasized is a condition

- When pancreatic tumors spread to other parts of the body.
- When malignant tumors form in the pancreas.
- When harmful tumors invade and destroy other healthy tissues of the body.
- When tumors are grown automatically in other parts of the body.

17 Pancreatic cancer is most commonly associated with.

- Endocrine gland
- Exocrine gland
- Cystadenomas
- Adenocarcinomas

18 Ampullary cancer is associated with.

- Endocrine gland
- Exocrine gland

- Pancreatic duct
- None

19 Failure of apoptosis results in;

- Pancreatic cell growth
- Enlargement of the pancreatic duct
- Cancerous tissues in the pancreas
- B & C

20 A cancerous growth in the pancreas is a result of;

- Specific carcinogens
- Family Genes
- Genetic mutations
- None

21 The risk of pancreatic cancer is associated with these carcinogens;

- Pesticides and dyes
- Pesticides, dyes and chemicals used for refining metals
- Only dyes

- None

22 One of these is not a symptom associated with PC;

- Back pain and problems with digestion
- Digestive problems and blood clotting
- Pulmonary edema and enlargement of the gallbladder
- Jaundice and modification in the lymph