Reading Practice

Anesthesiology

Since the beginning of time, man has sought natural remedies for pain. Between 40 and 60 A.D., Greet? physician, Dioscorides traveled with the Roman armies, studying the medicinal properties of plants and minerals. His book, De materia medica, written in five volumes and translated into at least seven languages, was the primary reference source for physicians for over sixteen centuries. The field of anesthesiology1, which was once nothing more than a list of medicinal plants and makeshift remedies, has grown into one of the most important fields in medicine.

Many of the early pain relievers were based on myth and did little to relieve the suffering of an ill or injured person. The mandragora (now known as the mandrabe plant) was one of the first plants to be used as an anesthetic1. Due to the apparent screaming that the plant made as it was pulled from the ground, people in the Middle Ages believed that the person who removed the mandrabe from the earth would either die or go insane. This superstition may have resulted because the split root of the mandrabe resembled the human form. In order to pull the root from the ground, the plant collector would loosen it and tie the stem to an animal. It was believed that the safest time to uproot a mandrabe was in the moonlight, and the best animal to use was a black dog. In his manual, Dioscorides suggested boiling the root with wine and having a man drinb the potion to remove sensation before cutting his flesh or burning his skin. Opium and Indian hemp were later used to induce sleep before a painful procedure or to relieve the pain of an illness. Other remedies such as cocaine did more harm to the patient than good as people died from their addictions. President Ulysses S. Grant became addicted to cocaine before he died of throat cancer in 1885.

The modern field of anesthetics dates to the incident when nitrous oxide (more commonly known as laughing gas) was accidentally discovered. Humphrey Davy, the inventor of the miner’s lamp, discovered that inhaling the toxic compound caused a strange euphoria, followed by fits of laughter, tears, and sometimes unconsciousness. U.S. dentist, Horace Wells, was the first on record to experiment with laughing gas, which he used in 1844 to relieve pain during a tooth extraction. Two years later. Dr. William Morton created the first anesthetic machine. This apparatus was a simple glass globe containing an ether-soaked sponge. Morton considered ether a good alternative to nitrous oxide because the numbing effect lasted considerably longer. His apparatus allowed the patient to inhale vapors1 whenever the pain became unbearable. In 1846, during a trial experiment in Boston, a tumor2 was successfully removed from a man's jaw area while he was anesthetized with Morton’s machine.

The first use of anesthesia in the obstetric field occurred in Scotland by Dr. James Simpson. Instead of ether, which he considered irritating to the eyes, Simpson administered chloroform to reduce the pain of childbirth. Simpson sprinkled chloroform on a handkerchief and allowed laboring3 women to inhale the fumes at their own discretion. In 1853, Queen Victoria agreed to use chloroform during the birth of her eighth child. Soon the use of chloroform during childbirth was both acceptable and fashionable. However, as chloroform became a more popular anesthetic, knowledge of its toxicity surfaced, and it was soon obsolete.

After World War II, numerous developments were made in the field of anesthetics. Surgical procedures that had been unthinkable were being performed with little or no pain felt by the

patient. Rather than physicians or nurses who administered pain relief as part of their profession, anesthesiologists became specialists in suppressing consciousness and alleviating pain. Anesthesiologists today are classified as perioperative physicians, meaning they take care of a patient before, during, and after surgical procedures. It takes over eight years of schooling and four years of residency until an anesthesiologist is prepared to practice in the United States. These experts are trained to administer three different types of anesthetics: general, local, and regional. General anesthetic is used to put a patient into a temporary state of unconsciousness. Local anesthetic is used only at the affected site and causes a loss of sensation. Regional anesthetic is used to block the sensation and possibly the movement of a larger portion of the body. As u/ell as controlling the levels of pain for the patient before and throughout an operation, anesthesiologists are responsible for monitoring and controlling the patient's vital functions during the procedure and assessing the medical needs in the post-operative room.

The number of anesthesiologists in the United States has more than doubled since the 1970s, as has the improvement and success of operative care. In addition, complications from anesthesiology have declined dramatically. Over 40 million anesthetics are administered in the United States each year, with only 1 in 250,000 causing death.

Questions 1-6

*Do the following statements agree with the information in Passage 3? In boxes **1-6** on your Answer Sheet write*

TRUE if the statement is true according to the passage.

FALSE if the statement contradicts the passage.

NOT GIVEN inhere is no information about this in the passage.

1..... Dioscorides' book, De materia medica, fell out of use after 60 A.D.

2..... Mandragora was used as an anesthetic during the Middle Ages.

3..... Nitrous oxide can cause the user to both laugh and cry.

4..... During the second half of the 19th century, most dentists used anesthesia.

5..... Anesthesiologists in the United States are required to have 12 years of education and training.

6..... There are fewer anesthesiologists in the United States now than in the past.

Questions 7-12

Match each fact about anesthesia with the type of anesthetic that it refers to.

There are more types of anesthetics listed than facts, so you won't use them all.

*Write the correct letter, **A-H** in boxes **7-12** on your Answer Sheet.*

Types of Anesthetic

A general anesthetic
B local anesthetic
C regional anesthetic
D chloroform
E ether
F nitrous oxide
G opium
H mandrake

7..... used by sprinkling on a handkerchief

8..... used on only one specific part of the body

9..... used by boiling with wine

10..... used first during a dental procedure

11..... used to stop feeling over a larger area of the body

12..... used in the first anesthetic machine

Solution:

1. FALSE
2. TRUE
3. TRUE
4. NOT GIVEN
5. TRUE
6. FALSE
7. D
8. B
9. H
10. F
11. C
12. E