A Heart Drug From Plants

Medicines made from plants have been used for thousands of years. The following passage tells about one such medicine, digitalis. Read the passage carefully, then answer the questions below.

The History of Digitalis

Foxglove is the common name for about 25 species of herbs that have bell-shaped flowers on long spikes. The common foxglove, Digitalis purpurea, grows 150 centimeters tall and has leaves about 30 centimeters long.

The common foxglove’s dried leaves have been used as a medicine since the 13th century. In the 18th century, doctors investigating herbal folk medicines found that a medicine obtained from common foxglove leaves increases the strength of the muscle contractions that pump blood from the heart to the rest of the body. As a result of this discovery, “digitalis” became the first drug ever used to treat heart disease.

Today, digitalis is used to treat patients who have congestive heart failure. With this disease, the patient’s heart does not pump strongly enough to circulate blood efficiently. Fluid from the blood collects in the lungs and interferes with gas exchange. Gas exchange is the transfer of oxygen and carbon dioxide between the blood and lungs. The heart may beat irregularly. The patient experiences fatigue, weakness, shortness of breath, and swelling of the legs. If congestive heart failure is not treated, the disease can cause death. Digitalis strengthens the patient’s heartbeat and improves heart rhythm.

Answer the following questions:

1. What is the common name of the plant that contains digitalis? What is the plant’s scientific name?
2. For about how many years has this plant been used as a medicine?
3. What effect does digitalis have on the human body?
4. When did doctors discover this effect?
5. What happened as the result of their discovery?
6. What disease is treated with digitalis today?
7. What conditions and symptoms does this disease cause?
8. What gas exchange occurs in the lungs?