Heart Murmur and Abnormal Valve Sounds Case Study

A 24-year old, female graduate student in biology presented with exhaustion, weakness and a low grade fever. She was pale and showed poor ability to concentrate.

Her history revealed that she had gradually become increasingly tired and weakened over the past two months. She had experienced low-grade fevers over the past month and felt she would need to drop out of her graduate program if she did not get this under control. She had had a severe strep throat about a year earlier and showed some signs of rheumatic fever at the time. She had had minor dental surgery about two months earlier.

On examination, she had a temperature of 100F. She had slightly enlarged cervical lymph nodes. She had a heart murmur, with abnormal valve sounds. Her ears, eyes and throat were clear. She had clear lungs and there were no significant findings in other systems.

1. What would be your primary diagnosis of this patient?
2. What agent do you think is causing this problem?
3. How would you make a definite diagnosis?