**Comprehensive Case Study on COPD, Heart Failure, Hypertension, and Diabetes Mellitus**

M. K. is a 45-year-old female measuring 5'5" and weighing 225 lbs. M. K. has a history of smoking about 22 years along with a poor diet. She has a history of type II diabetes mellitus along with primary hypertension. M. K. has recently been diagnosed with chronic bronchitis. Her current symptoms include chronic cough, more severe in the mornings with sputum, light-headedness, distended neck veins, excessive peripheral edema, and increased urination at night. Her current medications include Lotensin and Lasix for the hypertension along with Glucophage for the type II diabetes mellitus. The following are lab findings that are pertinent to this case:

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| **Vitals** |
| BP | 158/98 mm Hg |
| **CBC** |
| Hematocrit | 57% |
| Glycosylated hemoglobin (HbA1c) | 7.3 % |
| **Arterial Blood Gas Assessment** |
| PaCO₂ | 52 mm Hg |
| PaO₂ | 48 mm Hg |
| **Lipid Panel** |
| Cholesterol | 242 mg/dL |
| HDL | 32 mg/dL |
| LDL | 173 mg/dL |
| Triglycerides | 184 mg/dL |

For your signature assignment, compose a 8-page case analysis, written in APA format with a title page and at least 5 references, with one non-Internet reference. No abstract necessary. Organize your analysis with headings that thoroughly answer the following prompts. Support your opinions with evidence from your readings and research. Review the rubric for complete grading criteria. (Each question must be 3/4th of a page with a total of 8-pages maximum)( The Signature Assignment is a formal paper, please make sure that it is in proper APA format (Title page, running head, proper heading and divisions), **that it has in text citations (Lastname, 2009)** and that references are in APA. The requirements of the paper can be found under Assignments. Please do not state the question, use paragraph headings and address the question as a statement.)

1. In your introduction, summarize the case.
2. What clinical findings correlate with M. K.’s chronic bronchitis? What type of treatment and recommendations would be appropriate for M. K.’s chronic bronchitis?
3. Which type of heart failure would you suspect with M. K.? Explain the pathogenesis of how this type of heart failure develops. Include an overview of the disease and it's effects in the U.S. population.
4. According to the BP. value, what stage of hypertension is M. K. experiencing? Explain the rationale for the current medications for her hypertension.
5. According to the lipid panel, what other condition is M. K. at risk for? According to this case study, what other medications should be given and why? What additional findings correlate for both hypertension and type II diabetes mellitus?
6. Interpret the lab value for HbA1c and explain the rationale for this value in relation to normal/abnormal body function.
7. Provide a conclusion that summarizes your findings and discusses the effects of this disease in the U.S. population.