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**CAMPUS VIRCHOW-KLINIKUM (CVK)**

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Medizinische Klinik m.S. Kardiologie &  
Berlin-Brandenburg Center for Regenerative  
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Berlin, den 23. February 2018

**Re: – Dr. Amina Rakisheva, PhD work**

Dear professor Salim Berkinbayev,

The burden of Heart Failure is a significant issue for cardiologists all over the world with high morbidity and mortality. Recently, the high impact of co-morbidities, such as anemia and iron deficiency, on the disease progression process in HF patients has been recognized. As a result, the topic of the research thesis “The role of anemia in HF” of Dr Rakisheva is very relevant.

The aim and objectives of the study are clearly formulated by Dr. Amina Rakisheva, namely, the role of anemia in HF patients, its diagnostic and prognostic significance, the impact of anemia treatment in HF patients.

Dr. Amina Rakisheva made a retrospective analysis of hospitalized patients with cardiovascular disease at the Institution to investigate the frequency of HF and anemia (according to the WHO definition), which further helps fulfilling tasks in the healthcare system. She studied the current data on the prevalence and impact of anemia in patients with chronic HF. She presented study results allowed making conclusions about the prevalence of anemia and the features of the CHF together with anemia.

The improvement of quality of life measures of HF patients by anemia treatment in addition to basis treatment was tested.

On the basis of the results obtained, Dr Rakisheva developed a diagnostic and treatment proposal of anemia and iron deficiency for the HF recommendations in Kazakhstan. These practical proposals have a realistic chance to be enacted and are aimed at improving the quality of life and prevention of unfavourable outcomes at HF patients. The results were presented at a Poster Session of HFA Congress.

Dr. Amina Rakisheva has graduated from Postgraduate course on heart failure and the knowledges gained during training allow her to be a qualified expert in the field of HF and is worthy of awarding the PhD degree in speciality of Medicine in Almaty, Kazakhstan.

Thanks a lot for allowing me to review her work.

Yours sincerely,



Professor Stefan D. Anker