

CHARLES UNIVERSITY
FACULTY OF PHARMACY IN HRADEC KRALOVE

Department: of Biological and Medical Sciences

Master's degree program in Pharmacy

Opponent's review of Master's thesis

Student's name: Engy Hamdy Mohamed

Mentor of the thesis: prof. PharmDr. Petr Nachtigal, Ph.D.

Year of the thesis
defense: 2019

Opponent of the thesis: PharmDr. Jana Rathouská, Ph.D.

Title of the thesis:

**Write or insert : Pathophysiology of Metabolic Syndrome and Current
Therapeutic Approaches**

Formal comments: number of pages: 57, number of figures: 5, number of tables: 3, number of references: 72.

Type of work: Literature review

- a) The aim of the thesis is: Fulfilled
- b) Language and graphic level: Very good
- c) Processing of the theory: Very good
- d) Methods description: Not commented, Literature review thesis
- e) Results description: Not commented, Literature review thesis
- f) Discussion and conclusions: Very good

I recommend Diploma thesis for the recognition as Rigorous thesis .

Opponent's comments:

The thesis is generally well written, concise, with minimum of grammar mistakes and typing errors. However, a few objections are remaining.

Minor comments:

The usage of capital/small letteres in common terms and expressions (e.g. diseases,hormones,...), as well as drug names, is simply accidental. Also the system of abbreviations is not uniform, some abbreviations are set up several times in the text, some are not set up at all.

Major comments:

The citation format is not fully uniform (mainly in terms of names, surnames, initials usage) and sometimes incorrect/incomplete: see e.g. citatinos (G and P 2013), citation (Fg et al., 2017).

The chapter "Aim of the thesis" is already missing and the content of the chapter "Abstract" is inadequate. Moreover, if writing a DIPLOMA thesis, a short discussion/summary would be of value.

I dare to disagree with some of you statements, e.g.

"..cholesterol has been found to reduce beta amyloid formation in the hippocampus neurons, therefore, delaying Alzheimer's onset."

or

"CETP inhibitors, in comparison with statins, not only increase HDL levels, but also reduce LDL levels, which is absent in the statins treatment."

Since figures are explained either unsufficiently or not at all in the text, a short description would be desirable (mainly in figures 1, 2, 4). Moreover, figure legends are missing entirely.

Table 3 "Causes of Severe Insulin Resistance" used in the thesis is obviously not complete. According to the reference stated, the author states much more information in the table. Some data were completely cut out from the original table.

Questions:

1.) Describe the relationship between leptin and insulin resistance (sensitivity). Is it possible to use leptin as a therapeutic agent for metabolic syndrome?

2.) On page 20, you declare "Given that angiotensinogen is synthesized by the adipocytes.." This is not untruth, when speaking about the so called "local adipose tissue RAS". However, what cells are the main source of angiotensinogen in the body?

3.) On page 32, you mention a dry cough as an unpleasant adverse effect that may occur in ACE inhibitors therapy, potentially lowering compliance of these patients to the therapy. What is the mechanism of ACE inhibitor - induced cough?

Evaluation of Master's thesis: Very good

Recommendations for the thesis defense: Recommended

In Hradec Kralove 18.5.2019

.....
Opponent's signature