THE EFFECTS OF SEVOFLURANE AND PROPOFOL ON IFN-γ AND IL-12

Study on patients with craniotomy surgery

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I declare that this thesis is my own work and that, to the best of my knowledge and belief, contains no material that was previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma in any other university or other instutie of higher learning, except where due acknowledgement is made in the text.

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TABLE OF CONTENTS

APPROVAL SHEET.....ii

DECLARATION.....iii

CURRUCULUM VITAE.....iv

ACKNOWLEDGEMENT.....v

TABLE OF CONTENTS……..vi

LIST OF TABLES.…….....ix

LIST OF FIGURES……x

LIST OF APPENDIX……xii

ABSTRACT……xiii

CHAPTER I INTRODUCTION

1.1. Background.....1

1.2. Research Question.....5

1.3. Research Objectives.....5

1.4. Research Benefits.....6

1.5. Research Originality.....6

CHAPTER II LITERATURE REVIEW

2.1. Sevoflurane.....8

2.1.1. Physicochemical Properties.....8

2.1.2. Safety.....9

2.1.3. Sevoflurane and Immune Response.....10

2.2. Propofol.....11

2.2.1. Pharmachology of Propofol.....11

2.2.2. Clinical Use Special Anesthesia 12

2.2.3. Side Effects 13

2.2.4. Propofol and Immune Response 14

2.3. IFN-γ 15

2.3.1. Function of IFNγ 15

2.3.2. Structure of IFNγ 16

2.3.3. Factors that Influence the Production IFNγ 16

2.4. IL-12 17

2.4.1. Structure of IL-12 17

2.4.2. Function of IL-12 18

2.4.3. Factors that Influence the Production of IL-12 19

2.5. Theoretical Framework 20

2.6. Conceptual Framework 21

2.7. Hypothesis 21

CHAPTER III RESEARCH METHODS

3.1. Scope of the Study 22

3.2. Design of Study 22

3.3. Population and Subjects 23

3.3.1. Population 23

3.3.2. Subjects 23

3.3.2.1. Inclusion Criteria 23

3.3.2.2. Exclusion Criteria 23

3.3.3. Sample Size 24

3.4. Variables of Study 25

3.5. Operational Definition 25

3.6. Data Analysis 26

3.7. Research Instrument and Consumables 26

3.7.1. Instrument 26

3.7.2. Drugs 26

3.8. Ethical Clearance 26

3.9. Research Procedure 27

3.9.1. Anesthesia Procedures 27

3.9.1.1. Propofol Group 27

3.9.1.2. Sevoflurane Group 27

3.9.2. Blood Sampling Procedure 28

3.9.3. ELISA Procedure 28

CHAPTER IV RESULT

4.1. Characteristics of the Subjects 29

4.2. The Effects of Sevoflurane & Propofol on IFN-γ and IL-12 Level 29

CHAPTER V DISCUSSION

5.1. Discussion 34

CHAPTER VI CONCLUSION AND RECOMMENDATION

6.1. Conclusion 38

6.2. Recommendation 38

REFERENCES 39

LIST OF TABLES

Table 1.1. Previous reports related to the study 6

Table 3.1. Operational definition 25

Table 4.1. Demographic Data 29

Table 4.2. Level of IFN-γ and IL-12 in Sevoflurane Group..... 31

Table 4.3. Level of IFN-γ and IL-12 in Propofol Group 31

Table 4.4. Difference in Level IFN-γ and IL-12 between Groups..... 32

LIST OF FIGURES

Figure 2.1. Sevoflurane 8

Figure 2.2. Crystal structure of IL-12 18

Figure 2.3. Theoretical Framework 20

Figure 2.4. Conceptual Framework 21

Figure 3.1. Design of Study 22

Figure 3.2. Research Procedure 27

LIST OF APPENDIX

Appendix 1. Data

Appendix 2. Output SPSS

Appendix 3. Documentation

ABSTRACT

Background: This research aimed to analyze the effects of sevoflurane and propofol on IFN-γ and IL-12 study on patients with craniotomy surgery. The treatment is the anesthesia with sevoflurane or propofol for more than 2 hours. The levels of IFN-γ and IL-12 are measured just before induction of anesthesia and just after anesthesia with sevoflurane or propofol is stopped.

Methods: The study design is an observational study by using pre-and post design. The subjects are patients aged 30-55 years old who were undergoing craniotomy surgery for tumor removal at Dr. Kariadi Hospital. The differences in the means before and after the same anaesthesia agent were analyzed with paired T-test if the data distribution is normal, or with the Wilcoxon rank-sum test if the data distribution is not normal. The difference in the means between the two different anaesthesia agents were analyzed using an independent T-test if the data distribution is normal, or with the Mann-Whitney test if the data distribution is not normal.

Results: It was observed that sevoflurane and propofol increased the level of IFN-γ and IL-12 but not significant. There were differences between IFN-γ and IL-12 before and after anesthesia with sevoflurane compared with propofol. Therefore, the hypothesis was accepted. This shows that the originality of this research has been statistically and empirically proven.

Conclusion: The level of IFN-γ increased significantly after anesthesia with propofol. The level of IL-12 increased after anesthesia with both sevoflurane and Propofol. However, the increase difference between sevoflurane and propofol is not significantly different. Propofol and sevoflurane exerts comparables effect pro-inflammatory response in patients undergoing craniotomy surgery.

Keywords

Effects of sevoflurane, Propofol, IFN- γ, IL12, Craniotomy Surgery.