CONTROL OF SUBCLINICAL MASTITIS USING CERTAIN HOMEOPATHIC COMBINATION DRUGS AND ITS INFLUENCE ON MILK QUALITY AND PRODUCTION

AGATHA WINNY SANJAYA

THE GRADUATE PROGRAM
BOGOR AGRICULTURAL UNIVERSITY
BOGOR
2002
Just as my non-violence will never fail
homeopathy never fails
But the followers of homeopathy may fail
owing to faulty application of the principles.

(Mahatma Gandhi, 1939)
ABSTRAK

AGATHA WINNY SANJAYA. Upaya Pencegahan Mastitis Subklinik dengan Menggunakan Homeopatikum secara Kombinasi dan Pengaruhnya terhadap Kualitas dan Produksi Susu. Dibimbing oleh I WAYAN TEGUH WIBAWAN, MIRNAVATI SUWARWANTO, HEINRICH ENBERGS, SETYO WIDODO, MASDUKI PARTADIREJO (alm), HEINER SOMMER (alm)

Tigapuluhtiga ekor sapi perah penderita mastitis subklinik dikelompokkan dalam grup A (10 ekor), grup B (12 ekor) dan grup C (11 ekor). Sapi diobati dengan homeopati dalam bentuk kombinasi dan placebo, diobati pada minggu ke-4 dan 3 sebelum partus (a.p.) dan setiap minggu selama 4 kali berturut-turut setelah partus (p.p.). Grup A diobati dengan Coenzyme comp\(^\text{a}\) (minggu ke-4 dan 3 a.p.), Lachesis comp\(^\text{a}\) dan Traumeel\(^\text{a}\) (minggu ke-1 dan 2 p.p.), Coenzyme comp\(^\text{a}\) dan Carduus comp\(^\text{a}\) (minggu ke-3 dan 4 p.p.). Grup B diobati dengan Traumeel\(^\text{a}\) dan Mucosa comp\(^\text{a}\) (minggu ke-4 dan 3 a.p.), Lachesis comp\(^\text{a}\) dan Traumeel\(^\text{a}\) (minggu ke-1 dan 2 p.p.), Coenzyme comp\(^\text{a}\) dan Carduus comp\(^\text{a}\) (minggu ke-3 dan 4 p.p.). Grup C adalah placebo.


Respon setelah disuntik Coenzyme comp. (minggu ke-3 a.p.) memperlihatkan adanya peningkatan jumlah sel darah merah (RBC) untuk grup A (17,8\%), selanjutnya diikuti penurunan RBC sampai akhir pengamatan. Gambaran haemoglobin dan pack cell volume tidak mengalami perubahan (konstan). Limfosit grup A dan C meningkat menjelang proses kelahiran, hal sebaliknya terjadi bagi grup B. Kadar haptoglobin (Hp) pada fase penipartal meningkat bagi grup B 0,86 mg/ml dan bagi grup A maupun placebo 1,44 mg/ml serta 1,42 mg/ml. Pengamatan 5 minggu p.p. grup B mengalami penurunan jumlah Hp menjadi 0,09 mg/ml sampai akhir pengamatan adalah 0,07 mg/ml. Kadar Hp darah grup A menurun secara perlahan, kadar terendah dicapai pada minggu ke-5 p.p. yakni 0,18 mg/ml.

Pengamatan produksi susu selama 5 bulan (bulan ke-3 sampai ke-7) dalam masa laktais normal menunjukkan adanya peningkatan 14,5\% bagi grup B dan 5,0\% bagi grup A yang berbeda sangat nyata terhadap placebo.
ABSTRACT

AGATHA WINNY SANJAYA, Control of Subclinical Mastitis Using Certain Homeopathic Combination Drugs and Its Influence on Milk Quality and Production. Under the direction of I WAYAN TEGUH WIBAWAN, MIRNAWATI SUDARWANTO, HEINRICH ENBERGS, SETYO WIDODO, MASDUKI PARTADIREJDJA (late), HEINER SOMMER (late).

A total of 33 dairy lactating cows suffered from subclinical mastitis were classified into group A (10 cows), group B (12 cows) and group C (11 cows) which were treated with the combination of homeopathic drugs and placebo, applied at the 4th and 3rd week antepartum (a.p.) and every week for four times postpartum (p.p.). Group A received Coenzyme comp® (given in the 4th and 3rd week a.p.), Lachesis comp® with Traumeel® (1st and 2nd week p.p.) and Coenzyme comp® with Carduus comp® (3rd and 4th week p.p.). Group B received Traumeel® with Mucosa comp® (4th and 3rd week a.p.), Lachesis comp® with Traumeel®(1st and 2nd week p.p.) and Coenzyme comp® with Carduus comp® (3rd and 4th week p.p.) and group C as a placebo.

Incidence of mastitis in group A and C appeared irregularly. In contrast, group B showed a constant percentage (33.3%). Group A and B showed significant response to the homeopathic drugs, expressed as an increasing of the somatic cell count value after the last therapy for two weeks (5th – 7th week p.p.) and at the last observation decreased nearly to the normal value.

At the puerperal phase, the red blood cell of group A increased (17.8%) after the first therapy. Hemoglobin and pack cell volume showed no comparable results. Lymphocyte of group A and placebo increased during puerperal phase, contrary happened to group B. At peripartal phase haptoglobin increased for group B 0.86 mg/ml and group A as well as placebo 1.44 mg/ml. After birth, group B expressed a constant value (0.09 - 0.07 mg/ml), while group A and placebo raised significantly.

The milk yield increased significantly for five month observation in normal lactation period (the 3rd -7th month), with an increasing 14.5% and 5.0% for group B and A respectively.
Statement of originality

The studies described in this dissertation were performed in accordance with the regulations for the degree of Doctor in the Bogor Agricultural University. This dissertation consists entirely of original research which has not been submitted in whole or in part for any other degree at this university or at any other institution.

Bogor, December 12th, 2001

Agatha Winny Sanjaya
ID: 965104
CONTROL OF SUBCLINICAL MASTITIS USING CERTAIN HOMEOPATHIC COMBINATION DRUGS AND ITS INFLUENCE ON MILK QUALITY AND PRODUCTION

AGATHA WINNY SANJAYA

Doctoral Dissertation
submitted in fulfilment of the requirements to achieve a Doctor degree in Veterinary Science Study Program

THE GRADUATE PROGRAM
BOGOR AGRICULTURAL UNIVERSITY
BOGOR
2002
CURRICULUM VITAE

Agatha Winny Sanjaya was born in MEDAN, June 7th 1946 as the fifth child from the five children of Ignatius Dyan Kumiatan and Veronica Sukawati. The author married with Dominicus Setyasusila Sanjaya and has two children Benedictus Adhi and Martina Citra.

In 1964 entered the Faculty of Veterinary Medicine Bogor Agricultural University and inaugurated as doctor of Veterinary Medicine in 1973. Master degree was achieved in Veterinary Science in 1990 and in 1997 February, entered Doctor Program at the Graduate Program in Bogor Agricultural University and was funded by the Beasiswa Pendidikan Pascasarjana. A part of the research was funded by the Project of University Research for Graduate Education LOAN IBRD.
Title of Dissertation: CONTROL OF SUBCLINICAL MASTITIS USING CERTAIN HOMEOPATHIC COMBINATION DRUGS AND ITS INFLUENCE ON MILK QUALITY AND PRODUCTION

Name of Student: Agatha Winny Sanjaya
Registration Number: 965104
Study Program: Veterinary Science

1. Advisory Committee:

Dr. drh. I Wayan Teguh Wibawan M.S.  
chairman

Prof. Dr. drh. Hj. Mirawati Sudarwanto  
member

Prof. Dr. Heinrich Enbergs  
member

Dr. drh. Setyo Widodo  
member

2. Head of Study Program:

3. Director of the Graduate Program:

Dr. drh. Ign. B. Pontio Priosoeryanto, M.S.  

Dr. drh. Siafrida Manuwoto, M.Sc.

Date of examination: March 5th 2002
Acknowledgements

I would like to express my gratitude to my chairman advisor, Dr. drh. I Wayan Teguh Wibawan, MS, Department of Animal Diseases and Veterinary Public Health, member advisory, Prof. Dr. drh. Hj. Mimawati Sudanwanto, Prof. Dr. H. Enbergs, Dr. drh Setyo Widodo, for all his invaluable input, assistance and support throughout the course of this work. Special my honour are due to the late: Prof. Dr. Heiner Sommer and Prof. Dr. drh. H. Masduki Partadiredja for their encouragement.

I am very grateful to the Beasiswa Pendidikan Pascasarjana, Project of University Research for Graduate Education, for their sponsorship which enabled me to study in Germany. My thanks also go to the Rector IPB, Director of PPS-IPB, Dean of Veterinary Medicine Faculty, the head of Department of Animal Diseases and Veterinary Public Health at IPB, Bogor, Institut für Anatomie, Physiologie und Hygiene der Haustiere der Rheinischen-Friedrich-Wilhelms-Universität at Bonn, Fa. HEEL Baden-Baden Germany and the chief of Animal Quarantine Service, Jakarta International Airport, for their support.

I would also like thank to the director of Taurus Dairy Farm, Ir. Nugroho and his crew, all my co-workers, who were very helpful and sympathetic during the completion of the work in the field and laboratory.

I am also grateful to the staff members of Veterinary Public Health Laboratory, University of Bonn where I had done my research work and to all of my colleagues who supported me in various ways: Dr D.W. Lukman; Drh R.K. Achyadi MS; Ir E. Sudamika M.Si; Dr Fachrudin; Drh E.S. Pribadi, MS; Drh Lukas Tonga, Ir Agustine Santosa MS, Dr Linscheid; Dr U. Müller; Dr S. Knura and my friend Fr. Rosemarie Schattevoy. Last but not least, I would like to thank my families with their supporting and attention to my work.
LIST OF CONTENTS

LIST OF TABLES vii
LIST OF FIGURES vii
LIST OF APPENDICES ix
LIST OF ABBREVIATION x

1. INTRODUCTION
   1.1 Background 1
   1.2 General Objectives of this Study 2
   1.3 Hypothesis 2

2. LITERATURE STUDY
   2.1 Milk 3
   2.2 Defence Mechanism of Mammary gland 5
   2.3 Immunological Defence at Peripartal Phase 6
   2.4 Subclinical Mastitis 7
      2.4.1 Prevalence and Characteristic of Subclinical Mastitis 7
      2.4.2 Diagnosis of Subclinical Mastitis 10
   2.5 Homeopathy as an Alternative Therapy 20
   2.6 Advantageous of using Combination Form of Homeopathic Drugs 21
   2.7 Control of Subclinical Mastitis by Homeopathic Treatment 22
   2.8 Homeopathica Substances 24
      2.8.1 Coenzyme compositum 24
      2.8.2 Traumeel 26
      2.8.3 Mucosa compositum 27

3. MATERIAL AND METHODS
   3.1 Materials 29
      3.1.1 Milk and Blood Samples 29
      3.1.2 Instruments 29
      3.1.3 Chemicals 29
   3.2 Animal contingent 29
   3.3 Methods 30