

**THE EFFECT OF LASERPUNCTURE ON SPLEEN SIZE, WEIGHT AND
GERMINAL CENTER DIAMETER OF BROILER CHICKEN INFECTED
BY *Eimeria tenella***

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ABSTRACT

This research was aimed to investigate the effect of laserpuncture on size, weight and diameter of germinal center changes of chicken spleen infected by *Eimeria tenella*. Changes in size and weight of the spleen and germinal center diameter were measured on day 28 after treatment. The data were analyzed using ANOVA and then continued with Duncan test. T2 had highest mean and standard deviation of spleen size, weight and germinal center diameter. The results of T4 were not significantly different ($P>0.05$) from T2 while T3 showed no significant changes compared to T1 ($P>0.05$). Laserpuncture contains electrical impulse, it will cause chemical changes in membrane cells and causes changes in the bioelectric potential by increasing the concentration of Ca intracellular, such as the T cell receptor, the B cell receptor and co-stimulatory receptors. The activation of T cells can cause an increase in the IFN- γ and IL-2 then stimulate responsiveness of B cells in the germinal center to enlarge and proliferate and differentiate. It can be concluded that laserpuncture can increase the size, weight and diameter of germinal center of chicken spleen but the purpose of therapy is recommended to perform laserpuncture during infection rather than prior to infection.

Key words: Broiler chicken, laserpuncture, *Eimeria tenella*, spleen, germinal center.

ACKNOWLEDGMENT

First and foremost, the author would like to thank God Almighty for giving strength, knowledge, ability and opportunity to undertake this research with title **The Effect of Laserpuncture on Spleen Size, Weight and Germinal Center Diameter of Broiler Chicken Infected By *Eimeria tenella***. Without His blessings this research would not have been possible to achieve.

In this opportunity, the author would like to give the best gratitude towards The Veterinary Faculty dean, Prof. Dr. Pudji Srianto, drh., M. Kes. who had given the opportunity to study in Veterinary Faculty of Universitas Airlangga, Surabaya.

Prof. Muchammad Yunus, DVM., M.Kes., Ph.D. as the main supervisor and Hardany Primarizky Drh, MVM. as the co-supervisor, who had guided, provided advice and knowledge throughout the research process and completion of this thesis.

Prof. Dr. Lucia Tri Suwanti, drh., M.P as the head of examiner committee and also the mentor of this research. Prof. Dr. R. Tatang Santanu Adikara, drh., MS., TOT AKP. as the secretary of examiner and Dr. Thomas Valentinus Widiyatno, drh., M.Si. as the member of examiner for all advice and guidance that support the implementation of research and completion of this thesis.

Suzanita Utama M.Phil., PhD., Drh. as the academic advisor on academic guidance and a listener of the writer in the difficulties given while being a student at the Faculty of Veterinary Medicine, Airlangga University and all teaching staff

of the Faculty of Veterinary Medicine, Airlangga University especially Mas Ferly, Mas Endis, Pak Pardi and Pak Jumawan.

The author's beloved parents, Ir. Saptia Wibawa and Inderawati B.A, who always provide prayers, support and motivation so far. Also my older sister, Cindy Damayanti S.Pd. who gave a little support in improving this research or my motivation. Beloved Poerwadi and Soediro family for the financial, emotional support and never ending prayers.

Author's research friends Zein and Nandana who have been helping with this difficult writing and research. Duckling Fam especially Sepy and Jeje, Geng Jomblo especially Nonie, Diana, Adi, my friends Annas, Swiwi, Gesa, Lala, Arvi, Pawestri and the beloved UKM Panahan UNAIR family which helped me find my true self when I was very down and comforted me.

Author understands this thesis still not great, author welcomes and appreciates any sort of study and proposal that will help the improvement of this thesis and research. To wrap things up, author wishes that this thesis will be valuable for additional exploration and the progression of science.

Surabaya, July 2020

Author