STATISTICAL OBSERVATION OF *CYSTICERCUS* *INERMIS* IN NATIVE KOREAN CALVES

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Since ancient time the Korean farmers are breeding cattle. They are consumers of meat which is, now-a-days inspected by meat inspectors. It is commonly believed that the human parasite, especially the tapeworm, is more prevalent in Chosen and China than in Japan proper, but no record of statistical observation of cysticercus in cattle has been published, except Yinoba's report on this subject.

A large quantity of anti-rinderpest serum and rinderpest vaccine is produced in our institute throughout the year, and a large number of cattle is used for this purpose. As this afforded me greater opportunity to dissect cattle which were employed for experimental purpose or bled for serum and vaccine preparation, so I have carried out a systematical observation of cystic parasites in these animals.

Post-mortem examination was conducted under very minute care to find out the parasites from various organs and tissues of the animals. I have calculated the number of parasite, for three successive years, viz. from June 23rd, 1922 to March 31st, 1924 on 408 head of southern Korean native calves. Of these, 95 were under 1 year old and 313 from 1 to 2 years old.

I carefully examined pathological changes and other parasites in every instance, and have also made a few feeding experiments with proglottids of tapeworm. The following is a brief description of my investigations.

1) Of those 408 head of Korean native calves, 153 or 37.5 per cent were infected with the parasite, and 255 or 62.5 per cent free from cysticercus; of those with parasites 100 or 24.5 per cent were found to have living cysticerci and 26 or 6.37 per cent to have living and dead ones, namely, 126 or 30.88 per cent were found to harbour the *Cysticercus bovis* which is very harmful to

human being. In 27 or 6.62 per cent were found so aged cystic forms of parasites, that they were already calcified, degenerated, or decomposed.

2) Of those 153 infected calves, 95 or 62.09 per cent had a few cysticerci while 54 or 35.39 per cent comparatively a large number of them, that is to say, from several tens to about one hundred, and 4 or 2.61 per cent were most heavily attacked, namely, in the tissues and visceral organs they were found in an enormous number.

3) 6 cases of so-called generalized cysticercosis were clinically examined. The first case revealed symptoms of lameness and general emaciation and had 10462 living cysticerci. The second case was an eight years old korean bull, which could not support the body on his feet and showed the degeneration of musculature, attacked from 8400 cysticerci, living and dead. The third case was a calf whose left femoral bone was accidentally fractured on the concrete floor in the stable; it was infected with 5250 dead or caseous cystic forms. The fourth, fifth and sixth cases were equally in normal state notwithstanding that they have had 3600, 1390 and 862 of living or dead cysticerci respectively.

4) Districts or surroundings and animal conditions may have a relation to the percentage of occurrence of this disease but inspection season, sex, colour and body-weight have likely no relation to it.

5) I have found out the *Cysticercus inermis* in various parts of animal body, especially in the heart and skeletal musculature. By the usual inspection of masseter muscle any one can find out only one fourth of real percentage of this parasite.

6) An attempt has been made to discover the existence of any other muscle parasite. It has been found with naked eyes that the two types and three different kinds of bovine sarcosporocystis lived in the musculature of Korean cattle in a high percentage, such as (A) round form-round type I. (B) slender kind-long type II. (C) wormlike form-long type II.

7) The *Cysticercus inermis* developed in two experimental calves to which one metre of proglottids of *Taenia saginata* from

man was given.

I should like to emphasize here that it is exceedingly important to carry out prophylactic and eradicated measures against these parasites by official veterinarians and meat inspectors in this country.

朝鮮産犢ノ囊虫寄生ニ關スル統計的觀察

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朝鮮農家ハ特ニ多數ノ畜牛ヲ飼養シ古來牛肉食用ノ習慣ヲ有ス而シテ支那又朝鮮人間ニハ絛蟲ヲ寄生スル患者夥シキモノアリトハ從來ヨリ信ゼラレタル所ナリサレド家畜ニ寄生スル夫レ等ノ幼絛蟲即チ囊蟲ニ關シテハ井野場氏報告ノ外其ノ記載尠シ

著者ハ當所ニ於テ牛疫免疫血清及牛疫豫防液製造並ビニ試験ニ供用セシ多數朝鮮産犢ヲ常ニ解剖検査スル好機會アルヲ以テ側ラ其ノ囊蟲寄生ノ狀態ニ關シ統計的觀察ヲ試ミタリ即チ一定ノ方式ヲ以テ 1922 年 6 月 23 日ヨリ 1924 年 3 月 31 日迄 3 箇年間ニ亘リ年齡 1—2 歳ノ朝鮮牛 408 頭ニ就テ囊蟲ノ寄生部位、寄生數寄生狀態等ヲ精査シ併セテ此等動物ニ寄生スル他ノ寄生蟲體及肉眼上ノ病理解剖的變狀等ニモ注意ヲ拂ヒ少數ナレドモ人ノ無鉤絛蟲片節飼食試験ヲモ遂行シ左記ノ結論ヲ得タリ

(1) 3 箇年ヲ通ジ検査頭數 408 頭ノ内 255 頭即チ 62.5%ニ於テハ囊蟲寄生セズ 153 頭即チ 37.5%ニ於テハ囊蟲寄生セリ而シテ寄生セルモノ、内 100 頭即チ 24.5%ニ於テハ生活力アル囊蟲ノミ 26 頭即チ 6.37%ニ於テハ生活力アルモノト死滅セルモノト混合寄生シ合計 126 頭即チ 30.88%ニ於テハ直接人類ニ甚ダ危險ナル可ク殘リノ 27 頭即チ 6.63%ニ於テハ最早死滅石灰化變性蟲體

ノミヲ發見セリ

(2) 少數ノ囊蟲寄生ヲ發見セルモノハ 95 頭即チ 62.09 %ニシテ其ノ大半ヲ占メ數十乃至百個寄生セルモノ 54 頭即チ 35.39 % 全身ニ無數寄生セルモノ 4 頭即チ 2.61 %ニ過ギズ

(3) 著者ハ今日迄全身ニ無數寄生セルモノ 6 例ヲ經驗ス其ノ寄生蟲數ハ一定ノ計算式ヲ用ヒテ測定スルニ少キモ數百餘多キハ數千乃至一萬餘個ニ達シ全身囊蟲病ノ所謂症候又ハ變狀例ヘバ營養不良、跛行、起立不能、筋肉變性、外傷不慮の骨折等ヲ見タルモノアリ

(4) 寄生率ハ検査季節並ニ動物ノ性、毛色、體重ニ關係ナク其ノ產地及動物ノ健康狀態ト密接ナル關係ヲ有ス

(5) 嚴密ナル検査方法ヲ施行スレバ多數臟器ノ種々ナル部分ヲ占位スルヲ發見スルモ心臓、骨格筋肉ハ最モ屢々侵襲セラレ從來好愛部位トシテ知ラレタル咬筋ノミニテハ其ノ約四分ノ一ヲモ發見シ得ズ

(6) 著者ハ囊蟲検査ト共ニ病理解剖の變狀並ビニ其他ノ筋肉寄生蟲ニ注意シ朝鮮牛犢ノ筋肉ニハ肉眼的ニ 2 型態 3 種類(A.B.C)ノ住肉孢子蟲類多數寄生スルヲ發見スルニ至レリ

(7) 人ノ無鈎絛蟲片節ヲ犢 2 頭ニ餌食セシメ試験動物ニ同様ノ囊蟲ヲ發生セシメタリ

(8) 囊蟲ノ人及ビ動物ニ危險ナル感作ヲ及ボス事實及ビ各國ノ文獻ニ照ラシ速カニ朝鮮牛ノ囊蟲撲滅策ヲ講ズルコトノ極メテ緊要ナルヲ認ム

(自抄)