輸入蒙古産牛ニ於ケルつべるくりん應用結核検査ト其ノ解剖的病變トノ比較

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目 次

I. 緒 言	IV. 總 括
II. 検査要領	V. 結 論
III. つべるくりん皮下注射及點眼ニ依ル検査成績並ニ屠畜検査成績ト其ノ比較	

I. 緒 言

余ハ横濱港ヲ經テ海外ヨリ輸入スル家畜ノ検査ニ際シ大正7年以降前後十數年間ニ於テ歐米諸國ヨリ輸入シタル貴種ノ種牡牛、乳用牛或ハ食用牛ニ就キ總數734頭ニつべるくりん應用ニ依ル畜牛結核病ノ検査ヲ實施シタリ

其ノ内歐米及濠洲ヨリ輸入ノ392頭ノ畜牛ニ輕症結核僅ニ2頭加奈陀ヨリ輸入ノ食用牛342頭中疑症3頭ヲ檢出セルノミ然ルニ支那青島ヨリ輸入スル山東省方面ノ食用牛ニ對シテハ検査終了後直ニ隣接屠場ニテ屠殺スルモノナルガ故ニ特ニ其ノ生前つべるくりん應用ニ依ル結核病検査ハ之ヲ省略シ屠畜検査ノ成績ヲ參照スルコト、セリ然ルニ最近10箇年間ニ15,795頭ノ屠畜検査ニ於テハ1頭モ結核ニ罹レルモノヲ發見スルコト能ハザリキ反之大連ヨリ輸入サル、食用牛ノ大部分ハ蒙古地方原産ノ半野生牛ニシテ常ニ呼吸器ニ何等カノ變狀ヲ呈スルモノ多ク同地方ノ氣候風土並ニ飼養管理ノ狀況ガ自然呼吸器系統ノ疾患ニ侵サレ易キ環境ニアルコト推測ニ難カラザルモノアリ大正13年ニハ輸入牛ニ牛肺疫ニ罹レルモノ3頭昭和4年ニ2頭ヲ發見シ近年又屢々肺、肝臟若クハ各部ノ淋巴腺ニ結核様ノ病竈ヲ呈スルモノ頗ル多キニ鑑ミ之レカ病理細菌學的検査ノ結果孰レモ活動性結核病竈ヲ有スルコトヲ確認スルニ至レリ著者ハ又つべるくりん應用結核検査ト屠殺解體上ノ内臓ノ病

變トヲ直ニ相對照スル好機ヲ有スルヲ以テつべるくりん皮下注射並ニ點眼ニ依ル検査ヲ開始シ多數ノ實驗例ヲ徵シテ統計的ニ内臓ノ變狀ヲ觀察セント希圖シタルモ輸入ニ消長アリテ目下中絶ノ狀況ナルニヨリ其ノ數甚ダ多カラズト雖モ最近 182 頭ノ検査ノ成績ヲ得タレハ茲ニ之ヲ報告セントス

II. 検査要領

(a) つべるくりん皮下注射

皮下注射ハ濃厚つべるくりん 1ニ對シ 0.5% 石炭酸水 9ニ稀釋セルモノ 3.0c.c. (實量 0.3c.c.) ヲ中頸部皮下ニ注射シ注射ノ時間ハ午後 10 時ニ之ヲ行ヒ反應觀察ハ注射當日午前 8 時正午及午後 4 時ノ 3 回平常體溫ヲ檢測シ注射後ハ第 8 時間即チ翌朝午前 6 時ヨリ 2 時間ヲ隔テ、6 回檢溫シ尙稽留スルモノハ檢溫ヲ連續シタリ

反應ノ決定ハ注射前後ノ最高溫ヲ比較シ差溫増度 1 度以上ニシテ 40 度ヲ越ヘ稽留セルモノヲ陽性反應トシタリ

(b) つべるくりん點眼

點眼ノ方法ハ特選セル圖畫用長穗ノ毛筆ヲ用ヒ豫メ 0.5% 石炭酸水ニテ消毒淨洗セルモノニ濃厚つべるくりん原液ヲ充分ニ包含セシメ (實量約 0.3c.c.) 之ヲ結膜囊内ニ插入シ眼瞼ヲ指間ニテ閉塞保持シ左眼ハ内眥ヨリ外眥ニ右眼ハ外眥ヨリ内眥ノ方向ニ輕壓ヲ加ヘツ、筆ノ穗先ヲ以テ結膜面ヲ二三回往復塗擦シ術後助手ヲシテ二三分間指壓眼瞼ヲ閉鎖セシメタリ

點眼ハ皮下注射當日午後 5 時ヨリ施行シ反應ノ診定ハ點眼前ノ検査記録ヲ參照シ流淚、眼賦、結膜浸潤、充血等持續シ明瞭ナルモノヲ陽性トセリ而シテ第 1 回點眼後 48 時間ヲ隔テ、第 2 回點眼ヲナシタリ

(c) 解剖的變常

元來支那ヨリ輸入セラル、畜牛ハ皆檢疫終了後ハ隣接ノ屠場ニ於テ直ニ屠殺セラレ枝肉トシ都市ニ供給セラル、モノナレハ屠殺後ノ變狀ハ隣接屠場ニ於ケル屠肉検査ノ際調査セシモノナリ

III. つべるくりん皮下注射及點眼ニ依ル検査成績並ニ屠畜検査成績ト其ノ比較

上述畜牛 182 頭ニ就キつべるくりんノ反應並ニ屠畜検査ノ成績ヲ表記スレ

バ次ノ如シ

つべるくりん皮下注射及點眼ニ依ル成績並ニ屠畜検査成績比較表

番 號	個體 記號	皮下注射反應				眼 反 應			屠 畜 檢 査 成 績		
		最高溫	差溫	稽留 時間	結果	症 候	結果	病 竈	結果		
1	A 25	40.3	(+)1.4	5	+	流淚、粘膩漏持續	+	咽背淋巴腺結核	+		
2	" 30	40.2	" 1.2	9	+	流淚、粘膩漏著明	+	咽背淋巴腺結核、肺膿瘍	+		
3	" 34	40.4	" 1.6	9	+	流淚持續	+	氣管枝淋巴腺結核	+		
4	" 49	40.3	" 1.8	7	+	眼膩漏持續	+	咽背、氣管枝淋巴腺結核	+		
5	" 59	41.1	" 2.6	9	+	羞明、流淚持續顯著	+	氣管枝、縱隔膜淋巴腺結核	+		
6	B 2	41.2	" 2.7	13	+	流淚、眼膩顯著	+	右肺結核、氣管枝及縱隔膜淋巴腺結核	+		
7	" 19	41.6	" 2.7	11	+	眼膩、流淚極著明	+	咽背、氣管枝淋巴腺結核	+		
8	" 30	41.8	" 3.0	15	+	流淚、膿漏眼膩顯著	+	氣管枝、縱隔膜及咽背淋巴腺結核	+		
9	C 5	40.9	" 2.2	9	+	結膜充血、流淚、眼膩漏	+	肺結核	+		
10	" 8	41.8	" 3.2	9	+	結膜充血、眼膩持續	+	縱隔膜淋巴腺結核	+		
11	" 9	40.5	" 2.0	13	+	結膜充血、流淚、眼膩	+	咽背及腸間膜淋巴腺結核	+		
12	" 11	41.2	" 2.6	13	+	結膜充血、流淚、粘膩漏持續	+	咽背淋巴腺結核	+		
13	" 12	41.6	" 2.9	13	+	結膜充血、流淚眼膩持續	+	縱隔膜、氣管枝淋巴腺結核	+		
14	" 13	40.2	" 1.4	7	+	結膜充血、眼膩流淚輕度	+	縱隔膜、氣管枝淋巴腺及肺結核	+		
15	" 18	41.0	" 2.3	11	+	眼膩、流淚、結膜充血著明	+	氣管枝、縱隔膜、腸間膜淋巴腺、肺及肝結核	+		
16	" 23	41.0	" 2.0	11	+	結膜充血、流淚、眼膩持續著明	+	縱隔膜淋巴腺、肺及肝結核	+		
17	" 27	41.2	" 2.1	13	+	結膜微充血、眼膩流淚持續	+	肝結核	+		
18	" 29	41.3	" 2.7	13	+	結膜充血、眼膩定型的症候持續	+	咽背淋巴腺及肺結核	+		
19	" 41	40.8	" 2.1	9	+	眼膩、結膜充血持續	+	咽背淋巴腺及肺結核	+		
20	D 8	40.0	" 1.2	5	+	流淚頗多量	+	咽背、腸間膜淋巴腺結核	+		
21	" 9	40.5	" 1.6	13	+	眼膩持續	+	咽背、腸間膜淋巴腺結核	+		
22	" 13	40.0	" 1.5	3	+	流淚、眼膩	+	氣管枝淋巴腺結核	+		
23	" 14	40.6	" 1.8	9	+	結膜潮紅、流淚、粘膩漏	+	咽背、氣管枝、腸間膜淋巴腺及肺結核	+		
24	" 19	40.0	" 1.6	3	+	眼膩、流淚	+	咽背淋巴腺及肺結核	+		
25	" 27	41.0	" 2.7	15	+	羞明流淚著明	+	縱隔膜、腸間膜淋巴腺結核	+		
26	B 1	41.1	" 2.5	11	+	眼膩、流淚、充血著明	+	肺包蟲	-		
27	C 39	40.4	" 1.7	13	+	充血、眼膩持續	+	變狀ヲ見ズ	-		
28	A 1	40.0	" 1.4	5	+	變化ナシ	-	肺及氣管枝淋巴腺結核	+		

29	A 13	40.0	" 1.5	7	+	流涙、充血、粘膩ヲ漏 モス左右同様	-	咽背及氣管枝淋巴腺結核	+
30	" 16	41.0	" 2.1	11	+	變化ナシ	-	咽背淋巴腺結核	+
31	" 23	41.6	" 3.0	9	+	粘膩漏左右共同様	-	耳下腺、咽背、氣管枝、縱隔 膜及腸間膜淋巴腺結核	+
32	" 35	40.3	" 1.3	5	+	變化ナシ	-	氣管枝淋巴腺結核	+
33	" 41	40.0	" 1.2	不定	1	+	變化ナシ	肺結核	+
34	C 24	40.8	" 1.7	9	+	變化ナシ	-	肺、肝結核	+
35	B 26	40.0	" 1.3	11	+	變化ナシ	-	右側咬筋—囊蟲	-
36	C 25	40.8	" 1.7	5	+	變化ナシ	-	加答兒性肺炎	-
37	" 44	40.0	" 1.6	7	+	變化ナシ	-	肺包蟲、肝膿瘍	-
38	D 40	41.0	" 1.5	13	+	變化ナシ	-	變狀ヲ見ズ	-
39	B 20	39.7	" 0.7	10	-	眼臑、流涙、充血著明	+	氣管枝淋巴腺結核	+
40	D 6	38.8	(+)0.1	—	—	充血、眼臑持續、眼 臑小豆大	+	咽背淋巴腺結核	+
41	B 9	39.4	(+)0.6	—	—	眼臑、流涙著明	+	肺、肝包蟲	-
42	C 2	38.6	(-)0.2	—	—	流涙、充血、眼臑進行 著明	-	變狀ヲ見ズ	-
43	A 18	38.9	(+)0.6	—	—	米粒大眼臑アリ	-	咽背淋巴腺結核	+
44	" 20	39.1	" 0.1	—	—	粘膩漏アリ	-	咽背淋巴腺結核	+
45	" 55	39.1	" 0.1	—	—	涙多シ	-	肺、肋膜結核	+
46	C 28	39.1	" 0.5	—	—	充血、眼臑少量	-	肺及肝結核	+
47	" 42	38.6	" 0.3	—	—	變化ナシ	-	咽背淋巴腺結核	+
48	D 12	38.5	(-)0.1	—	—	變化ナシ	-	咽背、氣管枝淋巴腺結核	+
49	" 22	39.0	(+)0.3	—	—	變化ナシ	-	咽喉、縱隔膜淋巴腺及肺結核 急性重症	+
50- 182			—	—	—	變化ナシ	-	變狀ヲ見ズ	+

前表ニ於テ見ルガ如ク検査頭數 182 頭中熱反應陽性ノモノ 38 頭内屠場ニ
於テ結核ヲ證明セルモノ 32 頭ニシテ 6 頭ハ之ヲ證明セザリキ其等 32 頭中
25 頭ハ點眼反應陽性ニシテ 7 頭ハ陰性ナリ

熱反應陽性ニシテ結核ヲ證明セザルモノ 6 頭中點眼陽性ノモノ 2 頭陰性ノ
モノ 4 頭アリ

以上 32 頭ノ熱反應ハ差溫増度 1 度以上 1 度 5 分迄ノモノ 9 頭同差溫 1 度
5 分以上 2 度迄ノモノ 8 頭同差溫 2 度以上 3 度ノ増溫アルモノ 15 頭アリタ
リ又高熱稽留ノ模様ヲ見ルニ 1 時間 1 頭 3 時間 2 頭 5 時間 4 頭 7 時間 3 頭 9
時間 9 頭 11 時間 4 頭 13 時間 7 頭 15 時間 2 頭ニシテ大多數ハ 5 時間以上
稽留セリ

又屠場＝於ケル成績ヲ見ル＝肺臓ノミニ結核ヲ證明セルモノ2頭同肝臓＝
1頭淋巴腺系統＝19頭肺及肝臓＝結核ヲ有セシモノ1頭肺及淋巴腺＝結核
ヲ有セシモノ7頭及肺、肝、淋巴腺共＝結核病竈ヲ有セシモノ2頭アリタリ

つべるくりん皮下點眼兩反應共陽性ニシテ結核ヲ發見セルモノ25頭ノ病
狀ハ淋巴腺系結核15頭肺結核1頭肝結核1頭肺及淋巴腺結核6頭肺肝及淋
巴腺結核2頭ナリ

上述ノ熱度反應陽性ニシテ屠場ニ於テ結核ヲ發見セザル6頭ノ體溫ハ差溫
1度以上1度5分迄1頭1度5分以上2度迄4頭及2度以上3度迄ノ増溫ア
リシモノ1頭ニシテ之等ノ稽留時間ハ5時間1頭7時間1頭11時間2頭13
時間2頭ニシテ反應比較の明瞭ナリシニ係ラズ屠場ニ於ケル結果ハ陰性ナリ
キ

熱反應陰性ナリシ144頭ノ内屠場ニ於テ結核病竈ヲ發見セルモノ9頭アリ
之等ノ内點眼反應陰性ノモノ7頭陽性ヲ示シタルモノ2頭アリ體溫最高39
度7分差溫(+)0.7其ノ稽留10時間ニ及ベル疑反應ヲ呈セルモノ1頭アリ
他ハ全ク皮下注射ニ對シテハ無反應ナリ

而シテ以上9頭ノ屠場ニ於ケル成績ヲ見ル＝單ニ淋巴腺系統ノ結核6頭肺
肋膜結核1頭肺及肝結核1頭肺及淋巴腺系統結核1頭ニシテ其ノ内C28號
及D22號ハ共ニ全肺ニ急性重症ノ結核ヲ證明シ其ノ材料ノ培養並ニ動物試
驗ニ依リ強毒ナル結核菌ヲ分離シタリ此ノ2頭ハ眼反應ノ結果モ陰性ナリキ

検査頭數182頭中眼反應陽性ノモノ31頭ヲ檢翰シ其ノ内屠場ニ於テ結核
ノ病竈ヲ發見セシモノ27頭(前述)内熱反應陽性ノモノ25頭(前述)陰
性ノモノ2頭アリ結核ヲ發見セザルモノ4頭アリ内2頭ハ熱反應陽性他ノ2
頭ハ陰性ナリ

眼反應陽性ト決定セル32頭ノ反應程度ハ最モ著明ナリシモノ12頭輕度
ノ反應ヲ呈セシモノ13頭弱度ノ反應ヲ呈セシモノ6頭ヲ算セリ

眼反應陰性ナルモノ151頭中結核病竈ヲ證明シタルモノ14頭アリ内7頭
ハ熱反應陽性殘リ7頭ハ陰性ナリ熱反應ノミ陽性ノモノ11頭内屠場ニ於テ
結核ヲ發見セルモノ7頭アリ

之等14頭中全ク反應ヲ呈セザリシモノ8頭左右共同ニ程度ノ變化アリシ

モノ2頭極少量ノ流淚及眼臑ヲ漏セシモノ4頭アリタリ而シテ此等眼反應陰性ニシテ結核病竈ヲ發見セシモノノ變狀ハ淋巴腺系統結核8頭肺結核2頭肺及淋巴腺結核2頭肺及肝結核2頭ナリトス

眼反應陽性ニシテ結核ヲ發見セザリシモノ4頭中肺肝ニ包蟲寄生セシモノ2頭及全ク變狀ヲ認メザリシモノ2頭トス

屠畜検査ニ於テ結核病竈ヲ證明シタルモノ41頭アリ内肺ニ病變アリシモノ15頭淋巴腺系統ニ病變アリシモノ25頭及肝臟ニ結核ヲ認メタルモノ1頭ナリ

肺ニ病竈アリシ15頭中肺ノミニ病變ヲ認メタルモノ3頭肺並ニ肝臟ニ病變ヲ認メタルモノ4頭肺並ニ淋巴腺系統ニ結核アルモノ8頭内2頭ハ重症ノモノナリ又内2頭ハ腸間膜ニ結核ヲ併發セリ

淋巴系ニ結核ヲ證明シタル25頭中凡テ呼吸器系統ノ淋巴腺ヲ犯シ腸間膜ニモ併發セルモノ5頭アリタリ

總 括

以上ノ成績ヲ表記スレバ次ノ如シ

I. 皮下注射反應ト點眼反應ノ頭數比數

皮下注射反應	陽性 38	陰性 144	計 182
點眼反應	陽性 31	陰性 151	計 182
皮下注射及點眼兩反應	陽性 27	陰性 140	計 142
皮下注射反應	陽性 { 11	}	
點眼反應	陰性 { 1		
皮下注射反應	{ 陰性 { 4		
點眼反應	{ 陽性 { 1		

II. 皮下注射反應ト屠場ニ於テ證明シタル結核症ノ頭數比較

皮下注射反應	屠場ニ於テ證明シタル結核症
陽性 38	32
陰性 144	9
計 182	41

III. 點眼反應ト屠場ニ於テ證明シタル結核症ノ頭數比較

點眼反應	屠場ニ於テ證明シタル結核症
陽性 31	27
陰性 151	14
計 182	41

IV. 皮下注射及點眼兩反應又ハ一反應ト屠場ニ於テ證明シタル結核症ノ頭數比較

			屠場ニ於テ證明シタル結核症	
皮下注射及點眼兩反應陽性	27		25	
同	陰性	140	7 (内 2 頭ハ急性重症)	
點眼反應ノミ	陰性	11	7	
皮下注射反應ノミ	陰性	4	2	
計		182	41	

V. つべるくりん反應陽性ニシテ屠場ニ於テ結核ヲ證明セザルモノト

皮下注射及點眼兩反應又ハ一反應陽性ノ頭數比較

			つべるくりん反應陽性ニシテ屠場ニ於テ結核ヲ證明セザル頭數	
皮下注射及點眼兩反應陽性	27		2	
皮下注射反應ノミ陽性	11		4	
點眼反應ノミ陽性	4		2	
計	42		8	

VI. 屠場ニ於テ發見シタル結核病竈ノ臟器別頭數

肺ニ病變アリシモノ	15	(内肝臟ニ 4 頭, 腸間膜ニ 2 頭併發ス 但シ 1 頭ハ肝臟, 腸間膜双方ニ併發ス)
呼吸器系淋巴腺ニ變狀アリシモノ	25	(内腸間膜ニ 5 頭併發ス)
肝臟ニ病竈アリシモノ	1	
計	41	

VII. 皮下注射反應ノ熱型

最高溫 40 度以上ノモノ	22 頭	} 計 38 頭
最高溫 41 度以上ノモノ	16 "	
差溫 1 度以上ノモノ	20 頭	} 計 38 頭
差溫 2 度以上ノモノ	15 "	
差溫 3 度以上ノモノ	3 "	
繫留 3 時間ヨリ 7 時間ノモノ	11 頭	} 計 38 頭
繫留 9 時間ヨリ 15 時間ノモノ	26 "	
繫留 1 時間ナルモ反覆上下シタルモノ	1 "	

VIII. 眼反應ノ症狀

輕キ結膜炎ノ症候ヲ呈スルモノ	5 頭	} 計 31 頭
中等度ノモノ	15 "	
膿漏性結膜炎ノ症候ヲ呈スルモノ	11 "	

結 論

(1) 蒙古産ノ輸入牛 182 頭中つべるくりん皮下注射ニヨリ熱反應ヲ呈シタルモノ 38 頭 (20.88%) 點眼反應陽性 31 頭アリタリ而シテ屠畜検査ニヨリ結核ニ罹レルモノ 41 頭 (22.53%) ヲ證明シタリ

(2) 畜屠検査ニヨリ發見セル41頭ノ結核牛中つべるくりん皮下注射ニヨリ陽性反應ヲ呈セルモノ32頭同點眼反應陽性ノモノ27頭アリ熱並ニ點眼兩反應陽性ニテ三者一致セルモノ25頭(13.73%)ナリトス

(3) つべるくりん皮下注射ト點眼反應トノ病牛ノ發見率ハ皮下注射法有利ニシテ且明確ナリキ

(4) 熱反應陰性ニシテ結核ヲ發見シタルモノ9頭中眼反應ニヨリ結核ヲ發見シタルモノ2頭アリ故ニつべるくりん點眼法ヲ併用スルコトニヨリ熱反應ノ缺陷ヲ相當償ヒ得ルコト明ナリ

(5) 蒙古牛ニ對スルつべるくりん熱反應ハ平溫ヨリ1度以上3度ノ増溫ヲ示シ反應熱ノ稽留ハ3時間以上15時間ニ及ベリ

(6) 眼反應ハ結膜潮紅、流淚、眼臑ノ持續スル程度ヲ普通トスルモノ亦結膜充血、浸潤、羞明、流淚、濃漏性眼臑等顯著ノ反應ヲ呈スルモノ相當ノ數ニ及ベリ

(7) 結核ノ病變ヲ證明シタル41頭中多クハ呼吸器系統ヲ犯シ肺ニ變狀ヲ見タルモノ15頭、消化器系統ニ併發シタルモノ10頭内肝臟4頭、腸間膜淋巴腺6頭アリ外ニ肝臟ノミニ發シタルモノ1頭アリタリ

(8) 解剖的變常ノ著シキモノニシテ却テつべるくりん兩反應陰性ナルモノアリシハつべるくりん應用上注意ヲ要スル點ナリトス

A COMPARISON OF TUBERCULIN TESTS WITH
ANATOMICAL CHANGES IN MONGOLIAN
CATTLE IMPORTED FROM
DAIREN, CHINA

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For 12 years, 1918 to 1929, the author has carried himself

upon the tuberculous inspection in Yokohama for cattle imported from foreign countries, the number amounting to 734 head.

Of 392 head imported from Europe, America and Australia, there were two cases suffered slightly from tuberculosis, while four cases only were suspected among 342 head imported from Canada.

The result of meat inspection of beef cattle imported from Tsingtau, numbering 17,575 head, revealed no cases of tuberculosis.

On the contrary, the author found out many lung disturbances in the beef cattle imported from Mongolia through Dairen, China, as he detected in 1923 3 cases, in 1929 2 cases of bovine pleuropneumonia and several cases of tuberculosis.

The comparison was tried lately between the results of ophthalmic and subcutaneous tuberculin tests and anatomical changes, the number of animals examined amounting to 182 head (see the following table.)

The experiment has been done under following conditions.

(1) Subcutaneous tuberculin test.

Dosis of tuberculin used hypodermically was 3 c.c. consisting of 9 parts of 0.5% carbolic acid and 1 part of Koch's old tuberculin. A rise of temperature of 40° or above and an increase of at least 1° above the previous maximum recorded temperature have been regarded as a positive reaction.

(2) Ophthalmic tuberculin test.

Dap two or three times the surface of conjunctiva with writing brush keeping about 0.3 c.c. of tuberculin. A positive reaction consists in the appearance of a pronounced conjunctivitis.

(3) Anatomical change.

The animals were slaughtered and examined macroscopically in the slaughter-house.

Summary.

(1) Of 182 head of the cattle imported from Mongolia :

38 cases (20.88%) showed the positive reaction in hypodermic tuberculin test,

31 cases (17.58%) showed the positive reaction in ophthalmic tuberculin test, and in

41 cases (22.53%) tuberculous herds were demonstrated on

Comparison of the tuberculin reaction with anatomical changes.

Number	Case	Subcutaneous reaction			Ophthalmoreaction		Anatomical changes	
		Highest temperature after injection	Continuation of reaction (hours)	Rise of temperature	Result : (+) positive (-) negative	Diagnosis	Result : (+) positive (-) negative	Tuberculous changes in
1	A 25	40.3°	5	1.6°	(+)	Lacrimaton and mucous secretion continued.	(+)	Retro-pharyngeal glands. (+)
2	A 30	40.2°	9	1.2°	(+)	Lacrimaton and purulent secretion continued.	(+)	Retro-pharyngeal glands, lung abscess. (+)
3	A 34	40.4°	9	1.6°	(+)	Lacrimaton continued and redening.	(+)	Bronchial glands. (+)
4	A 49	43.3°	7	1.8°	(+)	Voluminous mucous secretion continued.	(+)	Retro-pharyngeal and bronchial glands. (+)
5	A 59	41.1°	9	2.6°	(+)	Lacrimaton and severe conjunctivitis continued.	(+)	Bronchial and mesenteric glands. (+)
6	B 2	41.2°	13	2.7°	(+)	Lacrimaton and severe purulent secretion.	(+)	Lung and broncho-mediastinal glands. (+)
7	B 19	41.6°	11	2.7°	(+)	Lacrimaton and severe purulent secretion.	(+)	Retro-pharyngeal and broncho-mediastinal glands. (+)
8	B 30	41.8°	15	3°	(+)	Lacrimaton and severe purulent secretion.	(+)	Retro-pharyngeal and broncho-mediastinal glands. (+)

9	C 5	40.9°	9	2.2°	(+)	Lacrimation, conjunctival reddening and mucous secretion.	(+)	Lung	(+)
10	C 8	41.8°	9	3.2°	(+)	Conjunctival reddening, lacrimation, mucous secretion.	(+)	Mediastinal glands.	(+)
11	C 9	40.5°	13	2.0°	(+)	Conjunctival reddening, lacrimation and mucous secretion.	(+)	Retro-pharyngeal and mesenteric glands.	(+)
12	C 11	41.2°	13	2.6°	(+)	Conjunctival reddening, lacrimation and mucous secretion.	(+)	Retro-pharyngeal glands.	(+)
13	C 12	41.6°	13	2.9°	(+)	Conjunctival reddening, lacrimation and mucous secretion.	(+)	Broncho-mediastinal glands.	(+)
14	C 13	40.2°	7	1.4°	(+)	Conjunctival reddening, lacrimation and mucous secretion (little).	(+)	Lung and broncho-mediastinal glands.	(+)
15	C 18	41.0°	11	2.3°	(+)	Conjunctival reddening, lacrimation and purulent secretion (severe).	(+)	Lung, liver, broncho-mediastinal and mesenteric glands.	(+)
16	C 23	41.0°	11	2.0°	(+)	Conjunctival reddening, lacrimation and severe purulent secretion.	(+)	Lung, liver and mesenteric glands.	(+)
17	C 27	41.2°	13	2.1°	(+)	Conjunctival reddening, lacrimation and mucous secretion.	(+)	Liver.	(+)
18	C 29	41.3°	13	2.7°	(+)	Conjunctival reddening and purulent secretion	(+)	Lung and retro-pharyngeal glands.	(+)

19	C 41	40.8°	9	2.1°	(+)	Conjunctival reddening and mucous secretion.	(+)	Lung and retro-pharyngeal glands.	(+)
20	D 8	40.0°	5	1.2°	(+)	Severe lacrimation.	(+)	Retro-pharyngeal and mesenteric glands.	(+)
21	D 9	40.5°	13	1.6°	(+)	Conjunctivitis.	(+)	Retro-pharyngeal and mesenteric glands.	(+)
22	D 13	40.0°	3	1.6°	(+)	Lacrimation and mucous secretion.	(+)	Bronchial glands.	(+)
23	D 14	40.6°	9	1.8°	(+)	Conjunctival reddening, lacrimation and severe mucous secretion.	(+)	Lung, retro-pharyngeal, bronchial and mesenteric glands.	(+)
24	D 19	40.0°	3	1.6°	(+)	lacrimation and mucous secretion.	(+)	Lung and retro-pharyngeal glands.	(+)
25	D 27	41.0°	15	2.7°	(+)	Severe lacrimation.	(+)	Mediastinal and mesenteric glands.	(+)
26	B 1	41.1°	11	2.5°	(+)	Conjunctival reddening, lacrimation and purulent secretion.	(+)	Echinococcus in liver.	(-)
27	C 39	40.4°	13	1.7°	(+)	Conjunctival reddening and mucous secretion	(+)	No change.	(-)
28	A 1	40.0°	5	1.4°	(+)	No change.	(-)	Lung and bronchial glands.	(+)
29	A 13	40.0°	7	1.5°	(+)	Conjunctival reddening, lacrimation and mucous secretion in both eyes.	(-)	Retro-pharyngeal and bronchial glands.	(+)

30	A 16	41.0°	11	2.1°	(+)	No change.	(-)	Retro-pharyngeal glands.	(+)
31	A 23	41.6°	2	3.0°	(+)	Mucous secretion in both eyes.	(-)	Parotic, retro-pharyngeal, broncho-mediastinal glands.	(+)
32	A 35	40.3°	5	1.3°	(+)	No change.	(-)	Bronchial glands.	(+)
33	A 41	40.0°	Short time	1.2°	(-)	No change.	(-)	Lung.	(+)
34	C 24	40.8°	9	1.7°	(+)	No change.	(-)	Lung and liver.	(+)
35	B 26	40.0°	11	1.3°	(+)	No change.	(-)	Echinococcus in masseter.	(-)
36	C 25	40.8°	5	1.7°	(+)	No change.	(-)	Catarrhal pneumonia.	(-)
37	C 44	40.0°	7	1.6°	(+)	No change.	(-)	Echinococcus in lung and liver abscess.	(-)
38	D 40	41.0°	13	1.5°	(-)	No change.	(+)	No change.	(-)
39	B 20	39.7°	10	0.7°	(-)	Conjunctival reddening, lacrimation and severe purulent secretion	(+)	Bronchial gland.	(+)
40	D 6	38.8°			(-)	Conjunctival reddening, mucous secretion continued.	(+)	Retro-pharyngeal glands.	(+)

41	B 9	39.4°		0.6°	(-)	Lacrimation and severe purulent secretion.	(+)	Echinococcus in lung and liver.	(-)
42	C 2	38.6°		-0.2°	(-)	Lacrimation, conjunctival reddening and severe purulent secretion.	(+)	No change.	(-)
43	A 18	38.9°		0.6°	(-)	Rice-grain-sized mucous crust.	(-)	Retro-pharyngeal glands.	(+)
44	A 20	39.1°		0.1°	(-)	Mucous secretion.	(-)	Retro-pharyngeal glands	(+)
45	A 55	39.1°		0.1°	(-)	Lacrimation, conjunctival reddening.	(-)	Retro-pharyngeal glands.	(+)
46	C 28	39.1°		0.5°	(-)	Slight conjunctival reddening and secretion.	(-)	Lung and liver.	(+)
47	G 42	38.6°		0.3°	(-)	No change.	(-)	Retro-pharyngeal glands.	(+)
48	D 12	38.5°		-0.1°	(-)	No change.	(-)	Lung and liver.	(+)
49	D 22	39.0°		0.3°	(-)	No change.	(-)	Lung and retro-pharyngeal, mediastinal glands (severe).	(+)
50— 182					(-)	No change.	(-)	No change.	(-)

autopsy.

(2) Among 41 cases showing tuberculous herds 32 cases were positive in hypodermic test, and at the same time, 27 cases positive in ophthalmic test.

25 cases (13.73%) were positive in hypodermic and ophthalmic tuberculin tests, and also on autopsy.

(3) The hypodermic tuberculin test was more effective and distinguished than the ophthalmic test in the diagnosis of tuberculosis.

(4) Among 9 cases in which tuberculous herds were demonstrated on autopsy, two cases showed positive ophthalmo-reaction while subcutaneous reaction was negative.

Therefore, it is understood that the ophthalmic test is obviously effective in make up deficiency of the subcutaneous test in case the reaction of the latter negative.

(5) In the positive cases of tuberculin test the increase of 1° - 3° remained 3-15 hours.

(6) Among 41 cases with tuberculous herds most of them showed tuberculosis of lymphatic glands of respiratory organs, 15 cases lung tuberculosis and one case liver tuberculosis.

(7) It is necessary to pay attention to some cases of severe tuberculosis showing the negative reaction in both tuberculin tests.

(Author's abstract from his Japanese paper)