VOLUME III.

PHOTOGRAPHS accompanying

THESIS

by

CHUNG YIK WONG,

M.B., Ch.B., D.T.M. & H.; D.P.H., B.Sc.,

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FIG. 1. A rabbit inoculated intravenously with 0.01 mgm. of dried tubercle bacilli of the human type; killed on the 95th day after inoculation.

Its initial and final weight was 1070 and 1400 grammes respectively.

NOTE the FOLLOWING:-

The LUNGS are collapsed and show several hard tuberculous nodules at the base, of a chronic and retrogressive character. Elsewhere the organ is not affected.

The LIVER is healthy.

The SPLEEN is not enlarged and does not show the presence of any tubercles.

The KIDNEYS show several small tubercles.
FIG. 3. A rabbit inoculated intravenously with 0.01 mgm. of dried tubercle bacilli of the bovine type; dead on the 23rd day after inoculation.

Its initial and final weight was 1680 and 1400 grammes respectively.

Essentially, the organs show the same lesions as in PLATE II except that in here the miliary tubercles in the lungs are very minute and closely packed.
PLATE IV.

FIG. 4. Primary cultures of Human Tubercle Bacilli. 5 weeks old.
A and B. On Glycerine Egg Medium. Profuse, closely packed, raised colonies. Note the dry appearance.
C and D. On Dorset's plain Egg Medium. Large, raised, rounded colonies. Note the dry appearance.

FIG. 5. Primary cultures of Bovine Tubercle Bacilli. 5 weeks old.
A and B. On Dorset's plain Egg Medium. Scanty, flat, discoid colonies. Note the moist appearance.
C. On Glycerine Egg Medium. Note the almost complete absence of growth. (Lines on culture due to stroke of spatula.)
PLATE V.

FIG. 6. **Human Tubercle Bacilli x 1000; ZIEHL-NEELSEN.**
From Dorset's egg medium at 5th generation of growth. Note the variation of the organisms in length and in shape; also their uneven affinity for stain.

FIG. 7. **Bovine Tubercle Bacilli x 1000; ZIEHL-NEELSEN.**
From Dorset's egg medium at 5th generation of growth. Note that the organisms are generally shorter and more evenly stained than those in last figure.
Photographs from sections illustrating structures of Reticular Tubercles.

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FIG. 8. Section of bronchial gland (from case 20) x 75, showing an early reticular tubercle (A human infection).

FIG. 9. Section of lung (from case 32) x 75, showing chronic reticular tubercles with giant cells. (A human infection).

FIG. 10. Section of bronchial gland (from case 96) x 75, showing early reticular tubercles with giant cells. Note the young fibrous tissue. (A human infection).

FIG. 11. Section of lung (from case 63) x 75, showing the fibrous structure of a reticular tubercle. (A human infection).
PLATE VII. (Continued from plate VI).

RETICULAR TUBERCLES.

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FIG. 12. Section of diaphragm (from case 24) x 75,
showing a reticular tubercle with commencing caseation. (A human infection).

FIG. 13. Section of pericardium (from case 33) x 75,
showing reticular tubercles with some fibrosis. (A human infection).

FIG. 14. Section of meninges (from case 23) x 75,
Note an early reticulum. (A human infection).

FIG. 15. Section of skin (from case 115) x 75,
showing commencing caseation in a reticulum.
(A human infection).
PLATE VIII.

Photographs from Sections showing Tuberculous Broncho-pneumonia and Consolidation.

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FIG. 16. Section of lung (from case 91) x 75, showing early tuberculous broncho-pneumonia with reacting consolidation. (A human infection).

FIG. 17. Same showing complete consolidation.

FIG. 18. Section of lung (from case 24) x 75, showing tuberculous broncho-pneumonia with early consolidation. (A human infection).

FIG. 19. Section of lung (from case 96) x 75, showing consolidation and early fibrosis. (A human infection).
PLATE IX.

Photographs from sections showing Endothelial Reaction.

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FIG. 20. Section of peritoneum (from case 76) x 75, Note marked endothelial reaction with giant cells. (A human infection).

FIG. 21. Same x 400.

FIG. 22. Section of same x 75, showing marked endothelial reaction around a caseous area.

FIG. 23. Same x 400.
Endothelial Reaction. (Continued from plate IX).

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FIG. 24. Section of Mesenteric gland (from case 90) x 75, showing well marked endothelial reaction (No tuberculosis produced in guinea-pigs on inoculation.)

FIG. 25. Same x 400.
PLATE XI.

FIG. 26. Section x 400, showing the structure of a typical giant cell.

FIG. 27. Section x 400, showing same.
PLATE XII.

Photographs from Sections illustrating Fibrosis in Tuberculous Lesions.

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FIG. 28. Section of lung (from case 76) x 75, showing a tubercle with marked fibrosis. (A human infection).

FIG. 29. Section of mesenteric gland (from case 81) x 75, showing several well-defined fibrous tubercles. (A bovine infection).

FIG. 30. Section of retroperitoneal gland (from case 118) x 75, showing same as in last figure with many ill-defined giant cells. (A bovine infection).

FIG. 31. Section of peritoneum (from case 16) x 75, showing general fibrosis with a giant cell in subserous coat. (A bovine infection).
PLATE XIII.

Fibrosis. (Continued from plate XII).

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FIG. 32. Section of Spleen (from case 110) x 75, showing fibrosis with early caseation. (A human infection).

FIG. 33. Section of Bronchial gland (from case 110) x 75, showing same.

FIG. 34. Section of Spleen (from case 113) x 75, showing an early caseous fibrous tubercle. (A human infection).

FIG. 35. Section of Mesenteric gland (from case 64) x 75, showing early diffuse fibrosis. (A bovine infection).
Photographs from sections of tissues which showed neither macroscopic nor microscopic evidence of tuberculosis but which produced tuberculosis in guinea-pigs on inoculation.

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From a case of latent tuberculosis showing no tuberculous lesions in any part of the body.

In other cases tuberculous changes were demonstrated elsewhere in the body.

FIG. 36 Section of cervical gland (from case 25) x 75, showing some congestion and pigmentation. (A human infection).

FIG. 37. Section of Spleen (from case 108) x 75, showing chronic venous congestion. (A bovine infection).

FIG. 38. Section of cervical gland (from case 5) x 75, showing congestion and some fibrosis. (A human infection.)

FIG. 39. Section of Bronchial gland (from case 5) x 75, showing congestion. (A human infection.)
PLATE XV.

(continued from Plate XIV.)

FIG. 40. Section of lung (from case 34) x 75, showing collapse and congestion. (A human infection).

FIG. 41. Section of lung (from case 32) x 75, showing chronic venous congestion with secondary consolidation. (A human infection).

FIG. 42. Section of lung (from case 103) x 75, showing congestion and collapse. (A bovine infection.)

FIG. 43. Section of liver (from case 103) x 75, showing chronic venous congestion and fatty change. (A bovine infection.)
Photographs from section illustrating instances, where tissues showing no important changes other than fibrosis and pigmentation were productive of tuberculosis in guinea-pigs on inoculation. Except in one case (marked *) tuberculous lesions were found in other parts of the body.

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FIG. 44. * Section of bronchial gland (from case 52) x 75, showing diffuse fibrosis with pigmentation. (A case of latent tuberculosis of human infection).

FIG. 45. Section of bronchial gland (from case 114) x 75, showing complete fibrosis with some residue of lymphoid tissue. (A bovine infection).

FIG. 46. Section of bronchial gland (from case 27) x 75, showing diffuse fibrosis at a comparatively early stage. (A human infection).

FIG. 47. Section of lung (from case 14) x 75, showing chronic fibrosis. (A bovine infection).
PLATE XVII.

(Continued from Plate XVI).

FIG. 48. Section of bronchial gland (from case 28) x 75, showing a fibrous nodule. Note pigmentation at periphery; suggestive of tuberculosis. (A bovine infection).

FIG. 49. Section of lung (from case 53) x 75, showing marked fibrosis. (A human infection).
Photographs from sections illustrating instances, where tissues from non-tuberculous subjects showing no important changes other than fibrosis failed to produce tuberculosis in guinea-pigs on inoculation.

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FIG. 50. Section of mesenteric gland (from case 58) x 75, showing diffuse fibrosis.

FIG. 51. Section of cervical gland (from case 58) x 75, showing diffuse fibrosis.

FIG. 52. Section of bronchial gland (from case 9), x 75 showing considerable pigmentation and fibrosis.

FIG. 53. Section of bronchial gland (from case 3), x 75 showing marked pigmentation and fibrosis.
Photographs from sections illustrating instances where the essential histological lesions were fibro-calcareaous or caseous nodules which produced tuberculosis in the guinea-pigs on inoculation.

In two cases (marked *) these lesions were the only evidence present pointing to tuberculosis.

Other cases not so marked showed tuberculous lesions elsewhere in the body.

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FIG. 54. Section of mesenteric gland (from case 8) x 75, showing marked caseation. (A bovine infection).

FIG. 55. Section of Bronchial gland (from case 8) x 75, showing caseation enclosed by fibrosis. (A bovine infection).

FIG. 56. * Section of retroperitoneal gland (from case 72) x 75, showing calcification, caseation and fibrosis. (A bovine infection.)

FIG. 57. * Section of lung (from case 99) x 75, showing a fibro-caseous nodule. Type of infection not determined.
FIG. 58. Section of bronchial gland (from case 111) x 75, showing commencing caseation in a fibrous nodule. (A human infection).

FIG. 59. Section of bronchial gland (from case 78) x 75, showing early caseation. (A human infection).

FIG. 60. Section of lung (from case 109) x 75, showing consolidation with caseation. (A human infection).

FIG. 61. Section of lung (from case 23) x 75. Note a tubercle with central caseation, and intermediate cellular zone and a fibrous wall at periphery. (A human infection).
Photographs from sections illustrating cases in which the characteristic histological lesions were fibro-calcareous or caseous nodules. These did not produce tuberculosis in guinea-pigs on inoculation.

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FIG. 62. Section of bronchial gland (from case 11) x 75, showing caseation and calcification enclosed by a fibrous wall.

FIG. 63. Section of bronchial gland (from case 13) x 75, showing caseation and fibrosis.

FIG. 64. Section of mesenteric gland (from case 12) x 75, showing caseation and fibrosis.

FIG. 65. Section of lung nodule (from case 101) x 75, showing caseation, calcification, and fibrosis.
Photographs from sections (from a tuberculous case used for comparison) showing nodules of undoubted tuberculous nature. Stained with Ziehl–Näelsen.

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FIG. 66. Section of nodule in gland (from case 129) x 75, showing a tubercular nodule full of tubercle bacilli (these appear in the centre of figure in dark patches).

FIG. 67. Section of same x 75, showing a small tubercular nodule with tubercle bacilli at right margin (these appear in the photograph in dark patches).

FIG. 68. Section of lung (from same case) x 75, showing tubercle bacilli in dark patches on right side of a bronchus.

FIG. 69. Section of a nodule (from same case) x 409, showing a great number of tubercle bacilli.
Photographs from sections of fibro-caseous nodules in the lung of non-tuberculous cases. Stained with Ziehl-Neelsen.

None show the presence of tubercle bacilli.

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FIG. 70. Section of a nodule (from case 123) x 75, showing caseous material enclosed by a thick fibrous wall.

FIG. 71. Another section of same nodule x 75, showing fibrosis with a residue of lymphoid tissue.

FIG. 72. Another section of same nodule x 75. Note the presence of pigments in the caseous material.

FIG. 73. Section of a nodule (from case 125) x 75, showing complete fibrosis.
FIG. 74. Section of another nodule (from case 123) x 75, showing caseous material enclosed by a fibrous wall.

FIG. 75. Another section of same nodule x 75, note complete fibrosis.

FIG. 76. Another section of same nodule x 75, showing caseation and fibrosis.