

On 6/2/34 three calves were injected subcutaneously with 5 cubic centimetres of an emulsion of M. Phlei and Liquid Paraffin. On 8/2/34 there were swellings at seat of injection. The calves were 5203, 5422, and 5301.

These were tested on 20/3/34 and 22/3/34 by means of a double Intradermal test using Tuberculin and an Extract prepared from M. Phlei. Doses were the same as for the usual Tuberculin test (Intradermal).

RESULTS:

20/3/34.

:	:	Skin prior:	Skin 22/3/34	:	Skin 23/3/34	:	
Calf:	to test	Phlei	Tuberculin	Phlei	Tuberculin		Remarks
5301:	5 m.m.	20 m.m.	7 m.m.	20 m.m.	10 m.m.	:	Oedema sl.
5203:	10 m.m.	18 m.m.	13 m.m.	30 m.m.	18 m.m.	:	Fairly circums.
5422:	5 m.m.	28 m.m.	7 m.m.	46 m.m.	8 m.m.	:	Marked oedema.
:	:	:	:	:	α	:	

Photograph of Calf 5422 attached, shows -

Reaction to Phlein (marked) and behind it a slight darkened area which was the site of the Tuberculin injection.



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DEATHS OF GUINEA PIGS INJECTED WITH ACID-FAST ORGANISMS.
 NOT M. TUBERCULOSIS AND LIQUID PARAFFIN - SUBCUTANEOUS AND INTRAPERITONEAL

DATE	CAGE	INFECTING ORGANISMS	CHANNEL OF INFECTION	IF ORGANISMS OBTAINED IN SMEARS	IF CULTIVATED	LESIONS
19/ 8/33	1	M. Phlei & Liquid Paraffin	Intraperitoneal	Acid-fasts numerous	Cultivated easily	General lesions, liver, spleen glands, large tube of fibrous tissue from point of injection to liver of T.B.
19/ 9/33	1	M. Phlei & Liquid Paraffin	Intraperitoneal	-	-	No lesions
20/ 9/33	1	M. Phlei & Liquid Paraffin	Intraperitoneal	Acid-fasts numerous	Cultivated	Abscesses in Internal Glands
3/ 9/33	1	M. Phlei & Liquid Paraffin	Subcutaneous	-	-	No lesions
20/ 9/33	1	M. Phlei & Liquid Paraffin	Subcutaneous	-	-	No lesions
20/ 9/33	1	M. Phlei & Liquid Paraffin	Subcutaneous	-	-	No lesions
30/ 8/33	2	M. Rabinowitz & Liquid Paraffin	Subcutaneous	Acid-fasts present, numerous, also liquid paraffin	Cultivated easily Used in subcu. inoculations	Abscess, site of injection, and in liver
9/ 9/33	2	M. Rabinowitz & Liquid Paraffin	Subcutaneous	-	-	No lesions
9/ 9/33	2	M. Rabinowitz & Liquid Paraffin	Subcutaneous	-	-	No Lesions
16/9/33	2	M. Rabinowitz & Liquid Paraffin	Intraperitoneal	Acid-fasts present	Cultivated easily	Local abscess point of injection
20/ 9/33	2	M. Rabinowitz & Liquid Paraffin	Intraperitoneal	Acid-fasts present	Cultivated easily	Local abscess point of injection
20/ 9/33	2	M. Rabinowitz & Liquid Paraffin	Intraperitoneal	Unable to demonstrate in liver. Acid-fasts obtained from pus of abscesses	Not successful	Pin-point areas throughout liver, abscesses int. glands
6/10/33	3	M. Smegmatis & Liquid Paraffin	Intraperitoneal	-	-	No lesions
31/10/33	3	Destroyed	M. Smegmatis & Liquid Paraffin	Intraperitoneal	Acid-fasts numerous	Cultivated easily
31/10/33	3	Destroyed	M. Smegmatis & Liquid Paraffin	Intraperitoneal	-	Encapsulated abscesses near stomach - small white areas containing pus in liver
31/10/33	3	Destroyed	M. Smegmatis & Liquid Paraffin	Subcutaneous	-	No lesions
31/10/33	3	Destroyed	M. Smegmatis & Liquid Paraffin	Intraperitoneal	-	No lesions (3 guinea pigs)
19/ 9/33	4	Moellers Mist Bacillus & Liquid Paraffin	Intraperitoneal	-	-	No lesions
3/10/33	4	Moellers Mist Bacillus & Liquid Paraffin	Intraperitoneal	-	-	No lesions
5/10/33	4	Moellers Mist Bacillus & Liquid Paraffin	Intraperitoneal	-	-	No lesions
31/10/33	4	Moellers Mist Bacillus & Liquid Paraffin	Subcutaneous	-	-	No lesions (3 guinea pigs)
31/10/33	4	Destroyed	Moellers Mist Bacillus & Liquid Paraffin	Subcutaneous	-	

LITERATURE CITED.

- KOCH (1882) - Berl. klin. Wch. XI 221 quoted by Calmette. A. 1923. Tubercle Bacillus infection and Tuberculosis in man and animals.
- KOCH (1890) - Deut. med. Wch. XVI 1029 quoted by Calmette ibid.
- KOCH (1891) - " " " XVII 101 " " " "
- KOCH (1897) - " " " XXIII 209 " " " "
- ROECKL and SCHUETZ (1891) - Ztochr.f. Fleisch - March. quoted by Calmette ibid.
- BANG and SALOMONSEN (1891) - Berl. tierarztl. Wchnschr. - April 6. 9. quoted by Calmette ibid.
- NOCARD (1891) - Bull. Acad. med. 55. 476 - 643. quoted by Calmette ibid.
- NOCARD (1892) Ann. de l'Inst. Pasteur. 6. 44. quoted by Calmette ibid.
- VAN PIRQUET (1907) - Deutsch. med. Wehnschr. 33. 865. quoted by Calmette ibid.
- LIGNIERES (1908) - Centralbl. f. Bakt. 46, 373. quoted by Calmette ibid.
- MORO (1908) - MUNCHEN med. Wchnschr. 55. 217. quoted by Calmette ibid.
- MALOU A. (1932) - L'epidermo-reaction a la Tuberculine chez les animaux domestiques - Thesis for Doc. Vet. - Alfort p. 62.
- CALMETTE (1907) - Compt. rend. Acad. des Sci. 144, 1324. quoted by Calmette (1923) ibid.
- FAVERO and FINZI) quoted by Hutyra, Marek and Manniger.
SCHMIDT and HAUPT) Special Pathology Therapeutics of the
JANUSCHKE) Diseases of Domestic Animals pgs. 555-661. 1938.
- TOPLEY AND WILSON (1929) - The Principles of Bacteriology and Immunity, Vol. 2.
- MANTOUX (1908) quoted by Hutyra, Marek and Manninger. pg.
- VILJOEN P.R. (1927) - Tuberculosis in S. Africa. Aug. No. 1. Vol 1. p. 20, Jnl. of S.A.V.M.A.
- CHALMERS J. (1927) - Discussion on P.R. Viljoen's paper ibid.
- POWER W. (1927) - " " " "
- GOODALL A. (1927) - " " " "
- BUXTON J.B. (1925) Tuberculin Tests in cattle with special reference to the Intradermal Test. Med. Research Council special report series No. 94. London H.M. Stationery office.
- BUXTON J.B. and MacNalty A.S. (1928) - The Intradermal Tuber-culin test in cattle. Med. Research Council special report series No. 122. London H.M. Sta-tionery office.

- WIER J. (1935) - Remarks on the Double Intradermal Test. Vet. Record 15. 1 - 4.
- DE KOCK G. v.d.W. (1932) - The Bovine Tuberculosis Problem in South Africa. Jnl. S.A.V.M.A. June and July. Nos. 2 and 3, Vol. 3, pages 53 to 65 and 97 - 105.
- GREEN W.J. (1933) - Notes on the Double Intradermal Tuberculin Test carried out in Durban and neighbourhood. Jnl. S.A.V.M.A. March No. 1 Vol. 4, pages 27 - 31.
- DOUGLAS A. (1937) - The control of Tuberculosis by means of the Tuberculin Test. Vet. Record. Sept. No. 36. Vol. 49, pp. 1129.
- JORGENSEN M. (1937) - Factors influencing the accuracy of the Intradermal Tuberculin Test - Maanedsskr. Dyrlæg 48. pp. 285 - 98 - Summar. in the Vet. Bulletin June 1937 No. 6. Vol. 7 p. 285.
- BUXTON J.B. and GLOVER R.E. (1939) - Tuberculin Tests in Cattle - Agric Research Council. A.R.C. Report Series No. 4. London H.M. Stationery office.
- Sâ VIANA CONTE H. and BELO M.M.A. (1936) - The intradermal Tuberculin Tests. Rev. Med. Vet. Lisboa 31. 48 - 61. Summary in the Vet. Bulletin Dec. 1937 No. 12 Vol. 7,
- TUTT J.B. (1928) - Personal communication to Buxton and MacNalty - the Intradermal Tuberculin Test in cattle - Med. Research Council Special report series No. 122. London H.M. Stationery office.
- GLOVER H.R. (1931) - The Double Intradermal Tuberculin Test. Vet. Record 11 pg. 1158 - 59.
- LAENKJOLM W. (1934) - Tubercolin Tests on Cattle (Denmark) Medlemsbl. danske Dyrlægeforen 17. 587 - 603. Summary in Vet. Bulletin September 1935. No. 9. Vol. 5.
- STENIUS R. (1932) On Calipers for use in the Intradermal Tuberculin Test. Skand. Vet.- tids kr. 22. 540 - 4. Summary in Vet. Bulletin. Sept. 1933 No. 9. Vol. 3.
- CHRISTIANSEN M.J. (1933) Denmark : Notice of 28th July 1933. on control of Tuberculosis in cattle and swine. Skand. Vet. Tidskr. 23, 456 - 464. Summary in Vet. Bulletin. August 1935. No. 8. Vol. 5.
- GÖTZE R and MULLER J. (1936) - Zur Methodik und Technik der Tuberkulinisierung beim Rinde - Berl. tierarztl. Wschr. 52. 151 - 55.
- ZELLER H. (1936) - Beitrag zur Diagnose der Rindertuberkulose. Berl. tierarztl. Wschr. 52. 789 - 91.

- HANCOCK R.C.G. (1939) - The Elimination of some variable factors from the Intradermal Tuberculin Test. Vet. Record. Jan. 7th 1939. No. 1. Vol. 51.
- LLEWELYN JONES H. (1939) - Measuring the Tuberculin Reaction. Vet. Record. February 11th 1939. No. 6. Vol. 51, pg. 190.
- MALCOLM P. (1932) Problems of Tuberculosis Control and its relation to Sanitary Science and Food Hygiene - J. Amer. Vet. Med. Assocn. 80. 96 - 99.
- HENRY M. (1936) The application of the Tuberculin Test - Aust. Vet. J. 12. 175 - 77.
- SYMONDS S.L. (1936) - Notes on the application of the Tuberculin Test to dairy cows in a small area. Aust. Vet. J. 12. 178 - 85.
- SPICER J. (1933) - Observations on the testing of cattle for Tuberculosis by the Double Intradermal method. Vet. Record 13. pg. 474.
- SCHROEDER E.C. (1926) No lesion reactors. Jnl. Amer. Vet. Med. Assocn. April 1926. Vol. LXIX.
- MOUSSU G. (1932).- De l'emploi de la tuberculine dans le diagnostic de la tuberculose en police sanitaire. C.R. Acad. Agric. 2. 54 - 63.
- STENIUS R. (1933). Notes on Technical details of the Intradermal Tuberculin Test. Skand. Vet.- tidskr. 23. 102 - 109. Summary in Vet. Bulletin September 1933, No. 9. Vol. 3.
- HINDERSSON R. (1933). The occurrence of M. tuberculosis infection (Human type) in cattle. Suomen Elain-lehti. 39. 154 - 162. Summary in Vet. Bulletin Vol. 4. Nov. 1934. No. 11.
- JACKSON S. and DIESEL A. (1939) - personal communication to author.
- PLUM N. (1926) - Cornell Vet. 16. p. 237 - 250.
- MINETT F.C. (1932). Avian Tuberculosis in cattle in Great Britain. J. Comp. Path. and Therap. 45. 317.
- VAN HEESBERGEN T. (1932). Vogeltuberkulose bij het Rund. Tydschr. Diergeneesk. 59. 1093.
- GLOYNE S.R. (1933). Avian tuberculosis with special reference to infection in man - Bulletin of Hygiene no. 8.
- FELDMAN W.H. and SCHLOTHAUER C.F. (1935) - The isolation of the organism of Avian Tuberculosis from cattle. Jnl. Amer. Vet. Med. Assocn. 86. 635 - 43.
- CHRISTIANSEN M.J. (1935). Control of Bovine Tuberculosis on the smaller islands and among suppliers to co-operative Dairies in Denmark. Avian type

of/....

- of infection in cattle in these areas.
 Maanedsskr. Dyrslaeg. 47. 321 - 36. Summary in
 Vet. Bulletin May 1936. No. 5. Vol. 6.
- TIMONEY J.F. (1939) - Avian tuberculosis in the Cow. Vet.
 Record. Vol. 51. Nos. 7 and 8. February 18th
 and 25th 1939.
- MARSH H., WARREN D.M. and MORROW A.C. (1932).- A study of the
 Tuberculin Sensitisation in cattle showing sub-
 cutaneous lesions. Jnl. Amer. Vet. Med.
 Assocn. 81. 105.
- DAINES L.L. and AUSTIN H. (1933) - A study of so-called skin
 lesions of Tuberculin - reacting cattle. Amer.
 Rev. Tuberc. 27. 600 - 10.
- DAINES L.L. and AUSTIN H. (1934) - Acid fast and non-acid fast
 microorganisms in skin nodules of Tuberculin
 reacting cattle. Amer. Rev. Tuberc. 30. 209.
- FELDMAN W.H. (1934) - Subcutaneous Tuberculoid lesions of
 cattle. An morphological study. Arch. Path.
 Lab. Med. 17. 533.
- RAUTMANN H. (1934). Ein Beitrag zur Ausbreitung der Tuber-
 kulose im Korper des Rindes auf Grund des
 Zerlegungsbefundes sowie der Ergebnisse der
 Milchserumkomplementbindung van 200 kuhen.
 II Teil. - Z. Infekt. Kr. Haustiere 45. 250.
- LOBEL L.W.M. (1934) - Lepra bulborum - summary in Ned-Ind.
 Bl. Diergeneesk. 46. 290.
- ARANY G. (1934) - Diagnosis of Tuberculosis in pigeons.
 Abst. from Abst. in Bull. Inst. Pasteur. 33.
 352. Summary in Vet. Bulletin September 1935.
 No. 9. Vol. 5.
- PRENDERGAST W.M. (1936) - Skin lesions in cattle - Jnl. Amer.
 Vet. Med. Assocn. 88. 74.
- CRAWFORD A.B. (1936) Tuberculin reactions in cattle showing
 no visible Tuberculous lesions on post mortem.
 Jnl. Amer. Vet. Med. Assocn. 89. 562.
- ROBERTSON A. and HOLD N.H. (1937) - A preliminary report on
 the problem of the bovine skin lesion Tuberculin
 reactor. Jnl. of Comp. Path and Therap. March
 1937 part 1. Vol. 50.
- BROOK G.B. (1937) Subcutaneous and cutaneous lesions in cattle
 which sometimes cause hypersensitivity to
 Tuberculin (so-called 'skin Tuberculosis').
 Vet. Jnl. April 1937. No. 4. Vol. 93. p. 135.
- HAGEN W.A. (1930). The skin lesion problem in the Tuberculosis
 eradication programme. Agric. Bulletin No. 242
 pp. 106 - 114. Proceedings of the Eleventh
 Annual Eastern States Conference on Tuberculosis
 and other animal diseases. Dept. of Agriculture
 and Markets. New York State.
- PERRARD CH. and RAMON. W. (1913). De l'Existence des Tuberculides
 chez les Bovides - Compt. Rend. Soc. Biolog. 133
 (a note presented by H. Vallee).

- BUXTON J. (1928) A note on the potency of Tuberculin - Appendix II - Special Report Series No. 122 to Medical Research Council. London. H.M. Stationery Office.
- GLOVER H.R. (1932) - Tuberculin testing - Vet. Record 12. 390.
- GLOVER R.E. (1933) - A study on Tuberculin with special reference to the Double Intradermal Test - 3rd report Direct. Instit. Animal Path. University of Cambridge 1932 - 1933.
- BUXTON J. and GLOVER R.E. (1933) Comparative Field trials of a synthetic and a standard Tuberculin. 3rd report. Direct. Instit. Animal Path. University of Cambridge 1932-1933.
- DORSET M. (1934) - A comparison of Koch's old Tuberculin with a new synthetic medium Tuberculin. Jnl. Amer. Vet. Med. Assocn. 84 439.
- BUXTON J. (1934) - Some aspects of the role of Tuberculin in the control of Tuberculosis. Proc. R. Soc. Med. 28. 257.
- BULL L.B. (1936) The standardisation of Tuberculin for use in animal practice. Aust. Vet. Jnl. 12. 168.
- HOLTH (1932) Norsk. Vet. Tidsskr. 44. pg. 196.
- HASTINGS E.G., WISNICKY B.A., BEACH B.A. and MC CARTER J. (1933). A detailed study of 'no lesion' Tuberculin reacting cattle. Jnl. Amer. Vet. Med. Assocn. 82, 565.
- SCHAEFER W. (1935) Sur un type particulier de bacilles acido- résistants isolés de l'organisme du cobaye. C.R. Soc. Biol. Paris 119, 961.
- PLUM N. (1937) Control of Bovine Tuberculosis in Denmark. Skand. Vet. Tidskr. 27, 157, Summary in Vet. Bulletin. August 1938. No. 8. Vol. 8. p. 493.
- HAGAN W.A. and LEVINE P. (1932) - The pathogenicity of the saphrophytic acid fast bacilli. Jnl. Amer. Vet. Med. Assocn. 81. December, 1932.
- GARET and ZEITOUN (1933) L'anaexotuberculine. Rec. de Med. Vet. de l'Ecole Alfort. 109. 9. 513-518. Summary in Vet. Rec. 1933. December 2nd No. 48. Vol. 13.

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