

#### REFERENCES

1. Alcalde, J.M. (1950). Serum cholinesterase determination in the differential diagnosis of jaundice. J. Lab. Clin. Med. 36: 391.
2. Aldrich, F.D., Walker, G.F. and Patnoe, C.A. (1969). A micro-modification of the pH stat assay for human blood cholinesterase. Arch Environ Hlth. 19: 617.
3. Augustinsson, K.B. (1955). The normal variation of human blood cholinesterase activity. Acta Physiol Scand. 35: 40.
4. Augustinsson, K.B. (1971). Comparative aspects of the purification and properties of cholinesterases: Bull. Wld. Hlth. Org. 44: 81.
5. Augustinsson, K.B., Eriksson, H. and Fayusson, Y. (1978). A new approach to determining cholinesterase activities in samples of whole blood. Clin. Chim. Acta. 89: 239.
6. Barclay, G.P.T., Path, M.R.C. (1973). Pseudocholinesterase activity as a guide to prognosis in malnutrition. Amer. J. Clin. Patho. 59: 712.
7. Begum, A. and Prathapkuman, J. (1960). Effect of vitamin A on cholinesterase activity in normal children and in children with protein-calorie malnutrition. Clin. Chim. Acta. 26: 343.
8. Berry, W.K. (1960). Cholinesterase in human serum. Biochem. Biophys. Acta. 39: 346.

9. Bicks, M. (1967). The effect of blood cholinesterase activity of chronic exposure to pesticides. Med. J. Aus. 21: 1066.
10. Biggs, H.G., Carey, S. and Morrison, D.B. (1959). A simple colorimetric method for measuring activities of cellular and plasma cholinesterase. Amer. J. Clin. Patho. 30: 181.
11. Bingham, W. (1957). Balanced anaesthesia for caesarian section. Anesthesia. 12: 435.
12. Blitt, C.D., Petty, W.C., Alberternst, E.E. and Wright, B.J. (1977). Correlation of plasma cholinesterase activity and duration of action of succinylcholine during pregnancy. Anesth. Analg. 56: 78.
13. Burman, D. (1961). Red cell cholinesterase in infancy and childhood. Arch. Dis. Childh. 36: 362.
14. Callaway, S., Davies, D.R. and Rutland, J.P. (1951). Blood cholinesterase levels and range of personal variation in a healthy adult population. Brit. Med. J. 2: 812.
15. Carraway, W.T. (1956). Photometric determination of serum cholinesterase activity. Amer. J. Clin. Patho. 26: 945.
16. Chiou, C.Y. (1973). A simple and sensitive method for the determination of enzymatic hydrolysis of various esters, Biochem. Biophy. Acta. 327: 374.
17. Division of Occupational Health and Radiation Control, Health Commission of New South Wales. (1979). Poisoning by

Pesticides. D. West. Government Printer. New South Wales.

18. Dancis, J., Lind, L. and Vara, P. (1960). In The Plasma and Fetal Membranes C.A. Villee (ed.), Williams and Wilkins, Baltimore.
19. Durham, W.F. and Wolfe, H.R. (1962). Measurement of the exposure of workers in Pesticide. Bull. Wld. Hlth. Org. 26: 75.
20. Ellman, G.L., Courtney, K.D., Andres, V. and Featherstone, R.M. (1961). A new and rapid colorimetric determination of acetylcholinesterase activity. Biochem. Pharmacol. 7: 88.
21. Evans, D.B., Lehmann, H. (1971). Pseudocholinesterase activity in liver transplantation. Lancet. i: 1040.
22. Evans, F.T., Gray, F.W.S., Lehman, H. and Silk, E. (1953). Effect of pseudocholinesterase level on action of succinylcholine in man. Brit. Med. J. 1: 136.
23. Friedman, M.M. and Lapan, B. (1961). Variations of enzyme activities during normal pregnancy. Amer. J. Obstet. Gynecol. 82: 132.
24. Garry, P.J. (1971). A manual and automated procedure for measuring serum cholinesterase activity and identifying enzyme variants. Clin. Chem. 17: 192.
25. Garry, P.J., and Routh, J.I. (1965). A micro method for serum cholinesterase. Clin. Chem. 11: 91.

26. Gerarde, H.W., Hutchinson, E., Locher, K.A. and Golz, H.H. (1965). An ultramicro screening method for the determination of blood cholinesterase. J. Occup. Med. 7: 303.
27. Goodman, L.S., Gilman, A. (1975). The Pharmacological Basis of Therapeutics. 6th Ed. New York. The MacMillan Company.
28. Greig, M., Faulkner, J. and Mcyberry, T. (1953). Studies on permeability. IX. Replacement of K in erythrocytes during cholinesterase activity. Arch. Biochem. 43: 39.
29. Greig, M. and Holland, N. (1949). Studies on the permeability of erythrocytes. I. The relationship between cholinesterase activity and permeability of dog erythrocytes. Arch. Biochem. 23: 370.
30. Hayes, W.J. (1965). Parathion poisoning and its treatment council on drugs. J. Amer. Med. Asso. 192: 135.
31. Hayes, W.J. (1971). Studies on exposure during the use of anti-cholinesterase pesticide. Bull. Wld. Hlth. Org. 44: 277.
32. Herz, F., Kaplan, E. and Scheye, E.S. (1972). Red cell acetyl-cholinesterase deficiency in autoimmune hemolytic anemia and in paroxysmal nocturnal hemoglobinuria. Clin. Chim. Acta. 38: 301.
33. Herz, F., Kaplan, E. and Scheye, E.S. (1972). Red cell acetyl-cholinesterase deficiency in ABO hemolytic disease of the newborn. Clin. Chim. Acta. 36: 537.
34. Hodges, R.J.H., Benett, J.R., Turnstall, M.E. and Schanks, K.F. (1959). Effect of Oxytocin in the response to suxame-

- thonium. Brit. Med. J. 1: 113.
35. Holland, W. and Greig, M. (1951). Studies on permeability. VI. Increased permeability of dog erythrocytes caused by cholinesterase inhibitors. Arch. Biochem. 37: 428.
36. Holmstedt, B. (1971). Distribution and determination of cholinesterase in mammals. Bull. Wld. Hlth. Org. 44: 99.
37. Howard, J.K., East, N.J. and Chaney, J.L. (1978). Plasma cholinesterase activity in early pregnancy. Arch. Environ. Hlth. 3: 277.
38. Johnson, C.D. and Russell, R.L. (1975). A rapid, simple radio-metric assay for cholinesterase, suitable for multiple determinations. Anal. Biochem. 64: 229.
39. Jones, P.H. and McCance, R.A. (1949). Enzyme activities in the blood of infants and adults. Biochem. J. 45: 466.
40. Kaplan, E. and Tildon, J.T. (1963). Changes in red cell enzyme activity in relation to red cell survival in infancy. Pediatrics. 32: 371.
41. Kaufmen, K. (1954). Serum cholinesterase activity in the normal individual and in people with liver disease. Ann. Intern. Med. 41: 533.
42. Knaak, B., Maddy, K.T., Jackson, T., Fredrickson, A.S., Peoples, S.A. and Love, R. (1978). Cholinesterase acitivity in blood samples collected from field workers and nonfield workers in California. Toxicol. Appl. Pharmacol. 45: 755.

43. Kunkel, H.B. and Ward, S.M. (1947). Plasma esterase activity in patients with liver disease and with the nephrotic syndrome. J. Exp. Med. 86: 325.
44. LaMotta, R.V., Williams, H.M. and Wetstone, J.H. (1957). Studies of cholinesterase activity II. Serum cholinesterase in hepatitis and cirrhosis. Gastroenterology. 33: 50.
45. Lanks, K.W. and Sklar, G.S. (1976). Stability of pseudocholinesterase in stored blood. Anesthesiology. 44, 5: 428.
46. Lehmann, H. and Ryan, E. (1956). The familial incidence of low pseudocholinesterase level. Lancet. 11: 124.
47. MacQueen, J., Plaut, D., Borges, J. and Anidon G. (1971). Manual colorimetric methods for pseudocholinesterase and red cell (True) cholinesterase. Clin. Chem. 17.6: 481.
48. MacQueen, J. and Plaut, D. (1973). A review of clinical application and methods for cholinesterase. Amer. J. Med. Tech. 39.7: 279.
49. McCaman, M.W., Tomey, L.R., McCaman, R.E. (1968). Radiometric assay of acetylcholinesterase activity in submicrogram amounts of tissue. Life. Sci. 7: 233.
50. McCance, R.A., Hutchinson, A.O., Dean, R.A. and Jones, P.H. (1940). The cholinesterase activity of the serum of newborn animals and of colostrum. Biochem. J. 33: 107
51. McComb, R.B., LaMotta, R.V. and Wetstone, H.J. (1965). Procedure for detecting atypical serum cholinesterase using

0. nitrophenylbutyrate as substrate. Clin. Chem. 11: 645.
52. Mendel, B. and Rudney, H. (1943). The type of cholinesterase present in brain tissue. Science. 98: 201.
53. Michel, H.O. (1949). An electrometric methods for the determination of red blood cell and plasma cholinesterase activity. J. Lab. Clin. Med. 34: 1564.
54. Milstoc, M. (1970). Cholinesterase activity in patients with rheumatoid arthritis. Amer. J. Clin. Patho. 53: 452.
55. Molander, O.W., Friedman, M.M. and LaDue, J.S. (1954). Serum cholinesterase in hepatic and neoplastic disease, a preliminary report. Ann. Int. Med. 41: 1139.
56. Nabb, D. and Whitfield, F. (1967). Determination of cholinesterase by an automated pH stat method. Arch. Environ. Hlth. 15: 147.
57. Namba, T. (1971). Cholinesterase inhibition by organophosphorus compounds and its clinical effects. Bull. Wld. Hlth. Org. 44: 289.
58. O'Farrell, H.K. Chattopadhyay, S.K. and Borown, H.D. (1977). Colorimetry of cholinesterase activity in serum. Clin. Chem. 23.10: 1853.
59. Pritchard, J.A. (1949). Erythrocyte age and cholinesterase activity. Amer. J. Physiol. 158: 72.
60. Pritchard, J.A. (1955). Plasma cholinesterase activity in normal pregnancy and in eclamptogenic toxemias. Amer. J. Obstet. Gynaecol. 70: 1083.

61. Pritchard, J.A. and Weisman, R. (1956). Erythrocyte cholinesterase activity in normal pregnancy and in megaloblastic and other anemia of pregnancy and the puerperium. J. Lab. Clin. Med. 47: 98.
62. Rappaport, F., Fischl, J. and Pinto, N. (1959). An improved method for the estimation of cholinesterase activity in serum. Clin. Chim. Acta. 4: 227.
63. Redderson, C.L. (1973). Interactions of steroids and serum cholinesterase. Int. J. Clin. Pharmacol. 8: 51.
64. Robertson, G.S. (1966). Serum cholinesterase deficiency II. Pregnancy. Brit. J. Anaesth. 38: 361.
65. Sadun, E.H., William, J.S. and Martin, L.K. (1966). Serum biochemical changes in malarial infection in man, chimpanzees and mice. Military Med. (Suppl.). 131: 1094.
66. Sawitsky, A., Fitch, H.M. and Meyer, L.M. (1948). Studies of cholinesterase activity of the blood of normal subjects. J. Clin. Med. 33: 203.
67. Scholler, K.L., Goedde, H.W., and Benkmann, H.G. (1977). The use of serum cholinesterase in succinylcholine apnoea. Can. Anaesth. Soc. J. 24: 396.
68. Schrader, G. (1952). Die entwicklung never insektizide auf Grundlage von organischen fluor- und phosphorverbindungen. Monographie. 62. Verlag Chemie, Weinheim.
69. Searcy, R.L. (1969). Diagnostic Biochemistry. The Blackiston Division. McGraw Hill Book Company.

70. Shnider, S.M. (1966). Serum cholinesterase during pregnancy, labor and the puerperium. Anesthesiology. 26: 335.
71. Sidell, F.R. and Kaminskis, A. (1975). Influence of age, sex and oral contraceptives on human blood cholinesterase activity. Clin. Chem. 21.10: 1393.
72. Sider, D.B., Batsakis, J.G. and Stiles, D.E. (1968). Serum cholinesterase activity. A colorimetric microassay and some clinical correlations. Amer. J. Clin. Patho. 50: 344.
73. Simpson, G.R. (1973). Aerial spraying of organic phosphate pesticides lowered blood cholinesterase levels of aerial spray operators at Wee Waa. Med. J. Aust. 1: 735.
74. Stedman, E., Stedman, E. and White, A.C. (1933). A comparison of the choline-esterase activities of the blood sera from various species. Biochem. J. 27: 1035.
75. Stein, H.H. and Lewis, G.J. (1966). Studies of acetylcholinesterase utilizing automated metrodology. Anal. Biochem. 15: 481.
76. Tetsuo, U., Miyamoto, Y., Ohnishi, M. and Shimano, N. (1972). Spectrophotometric micromethod for measuring cholinesterase activity in serum or plasma. Clin. Chem. 18.1: 454.
77. Vaccarezza, J.R., Ruiz, D.C. and Domingvez, A.C. (1969). Colorimetric methods for measuring pseudocholinesterase, acetylcholinesterase and whole blood cholinesterase. Its use in the presumptive diagnosis of cancer.

Specialia. 25.8: 808.

78. Vincent, D., (1958). La cholinesterase sérique dans la nephrose lipoidique. Clin. Chim. Acta. 3: 104.
79. Vorhaus, L.J., and Kark, R.M. (1953). Serum cholinesterase in health and disease. Amer. J. Med. 14: 707.
80. Vorhaus, L.J., Scudamore, H.H., and Kark, R.M. (1951). Measurement of serum cholinesterase activity: a useful test in the management of acute hepatitis. Amer. J. Med. Sc. 221: 140.
81. Wetstone, H.J. and LaMotta, R.V. (1965). The clinical stability of serum cholinesterase activity. Clin. Chem. 11: 653.
82. Zavon, M.R. (1965). Blood cholinesterase levels in organic phosphate intoxication: council on drugs. J. Amer. Med. Asso. 192: 51.
83. Zawitsky, A., Rowen, M. and Meyer, L. (1948). A study of cholinesterase activity in the blood of patients with hematologic disease. J. Lab. Clin. Med. 34: 178.
84. Zeller, E.A. and Fouts, J.R. (1962). Enzymes as primary targets of drugs. Pharmac. Rev. 2: 9.

**CURRICULUM VITAE**

Name: **Mrs. Supatra Srichairat**

Education: **Bachelor of Science in Pharmacy in 1976, Chulalongkorn University, Thailand**

**Position and Site of the Employer's Office**

**Lecturer and Instructor on Pharmacology, Department of Pharmacology, Faculty of Veterinary Science, Chulalongkorn University, Bangkok, Thailand.**



**ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย**