

HORMONAL STUDIES IN CHILDHOOD CIRRHOSIS

THESIS

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THE DEGREE OF DOCTORATE OF PHILOSOPHY IN CHILDHOOD STUDIES

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CHAPTER VIII

ARABIC SUMMARY



Phospholipase A₂ activity in the skin. *Biochem. J.*,
184: 283.

- Ziegler, T.W. (1976) :

Hepatorenal syndrome : a disease mediated by the
intrarenal action of renin. *Med. Hypotheses.*, 2 : 15.

- Zipser, R.D.; Kerlin, P.; Hoefs, J.C.; Zia, P.; and Barg,
A. (1981) :

Renal kallikrein excretion in alcoholic cirrhosis.
Relationship to other vasoactive systems. *Am. J.*
Gastroenterol., 75 : 183.

- Zumoff, B.; Bradlow, H.L.; Gallagher, T.F.; and Hellman,
L. (1967) :

Cortisol metabolism in hepatic cirrhosis. *J. Clin*
Invest., 46 : 1735

- Wong, P.Y.; Talamo, R.C.; and Williams, G.H. (1977) :
Kallikrein-kinin, and renin angiotensin systems in
functional renal failure of cirrhosis of the liver.
Gastroenterology, 73 : 1114.
- Wong, T.; Morgan, T.O.; Alcorn, D.; and Ryan, G.B. (1986)
Effect of sodium intake and sodium delivery to the
macula densa on the renal renin content and
juxtaglomerular apparatus morphology. clin. Exp.
Pharmacol.Physiol., 13 : 267.
- Wright, F.S.; and Briggs, J.P. (1979) :
Feedback control of glomerular blood flow, pressure,
and filtration rate. Physiol. Rev., 59 : 958.
- Wyler, D.J.; Wahl, S.M.; and Wahl, L.M. (1978) :
Hepatic fibrosis in Schistosomiasis : egg granulomas
secrete fibroblast stimulating factor in vitro.
Science, 202 : 438.

Y

- Yokosawa, H.; Inagami, T.; and Haas, E. (1978) :
Purification of human renin. Biochem. Biophys. Res.
Commun., 83 : 306-309.

Z

- Ziboh, V.A.; and Lord, J.T. (1979) :

- Renal sodium retention in cirrhosis : relation to aldosterone and nepron site. Clin. Sci, 56 : 169.
- Wilkinson, S.P.; Smith, I.K.; and Williams, R. (1979 b) :
Changes in plasma renin activity in cirrhosis : a reappraisal based on studies in 67 patients and "Low-renin" cirrhosis. Hypertension, 1 : 125.
 - Wilkinson, S.P.; Smith, I.K.; Moodie, H.; Poston, L.; and Williams, R. (1979 c) :
Studies on mineralocorticoid escape in cirrhosis. Clin. Sci., 56 : 401.
 - Wilkinson, S.P.; and Williams, R. (1980) :
Renin angiotensin aldosterone system in cirrhosis. Gut, 21 : 545.
 - Winer, N.; Chokshi, D.W.; Yoon, M.S.; and Freedman, A.D. (1969) :
Adrenergic receptor mediation of renin secretion. J. Clin. Endocrinol. Metab., 29 : 1168.
 - Witte, C.L.; Witte, M.H.; Cole, W.R.; Chung, Y.C.; Bleisch, V.R.; and Dumont, A.E. (1969) :
Dual origin of ascites in hepatic cirrhosis. Surg. Gynec. Obstet., 129 : 1027.
 - Witte, C.L.; and Dumont, A. (1971) :
Physiologic factors involved in the causation of cirrhotic ascites. Gastroenterology, 61 : 742.

V

- Van de Kar, L.D.; and Richardson-Morton, K.D. (1986) :
Serotonergic regulation of the release of renin is not mediated by the autonomic nervous system but involves beta adrenoreceptors. *Neuropharmacology*, 25 : 487.
- Villaneuve, J.P.; Infante-Rivard, C.; Ampelas, M.; Pomier-Layrargues, G.; Huet, P.M.; and Marleau, D. (1986) :
Prognostic value of the aminopyrine breath test in cirrhotic patients. *Hepatology*, 6 : 928.

W

- Wernze, H.; Spech, H.J.; and Muller, G. (1978) :
Studies on the activity of the renin angiotensin aldosterone system (RAAS) in patients with cirrhosis of the liver. *Klin. Wochenschr.*, 56 : 389.
- Wilkinson, S.P.; Smith, I.K.; Clarke, M.; Arroyo, V.; Moodie, H.; and Williams, R. (1977) :
Intrarenal distribution of plasma flow in cirrhotics as measured by transit renography : relationship with plasma renin activity and sodium and water excretion. *Clin. Sci. Molec. Med.*, 52 : 429.
- Wilkinson, S.P.; Jowett, T.P.; Slater, J.D.; Arroyo, V.; Moodie, H.; and Williams, R. (1979 a) :

T

- Tagawa, H.; Vander, A.J.; Bonjour, J.; and Malvin, R.L. (1971) :
Inhibition of renin secretion by vasopressin in unanesthetised sodium deprived dogs. Am. J. Physiol., 220 : 949.
- Targan, S.R.; Chow, A.W.; and Guze, L.B. (1977) :
Anerobic bacteria in spontaneous bacterial peritonitis of cirrhosis. Am. J. Med., 62 : 397.
- Temple, T.E.; and Liddle, G.W. (1970) :
Inhibitors of adrenal steroid biosynthesis. Ann. Rev. Pharmacol., 10 : 199.
- Tobian, L.; Janeock, J.; and Tomboulia, A. (1959) :
Correlation between granulation of the juxtaglomerular cells and extractable renin in rats with experimental hypertension. Proc. Soc. Exp. Biol. Med., 100 : 94.
- Tucci, J.R.; Albacete, R.A.; and Martin, M.M. (1966) :
Effect of liver disease upon steroid circadian rhythm in man. Gastroenterology, 50 : 637.
- Tyrrell, J.B.; and Forsham, P.H. (1983) :
Glucocorticoids and adrenal androgens. In : Basic and Clinical Endocrinology. Edited by Greenspan, F.S., and Forsham, P.H., Los Altos, California, Lange Medical Publications, P. 258.

- disaggregation of granulocyte aggregates in vitro. J. Clin. Invest., 68 : 13.
- Slater, E.E.; and Haber, E. (1979) :
Inactive renin. N. Engl. J. Med., 301 : 429.
 - Starling, E.H. (1896) :
On the absorption of fluids from the C.T. spaces. J. Physiol. (Lond.), 19 : 312.
 - Stocklight, J.R.; Hewett, M.H.; Topliss, D.J.; Higgs, E.T.; and Toft, P. (1979) :
Renin and renin substrate in primary adrenal insufficiency : Contrasting effects of glucocorticoids and mineralocorticoids deficiency. Am. J. Med., 66 : 915.
 - Suhara, K.; Takeda, K.; and Katagiri, M. (1986) :
P-450 11-beta dependent conversion of cortisol to cortisone, and 19-hydroxyandrostenedione to 19-oxoandrostenedione. Biochem. Biophys. Res. Commun., 136 : 369.
 - Sutherland, E.W. (1970) :
On the biological role of cyclic adenosine monophosphate. JAMA, 214 : 1281.
 - Sutherland, E.W.; Oye, I.; and Butcher, R.W. (1965) :
The action of epinephrine and the role of adenyl cyclase system in hormone action. Recent Prog. Horm. Res., 21 : 623.

- Sherlock, S.; Senewiratne, B.; Scott, A.; and Walker, J.G. (1966) :
Complications of diuretic therapy in hepatic cirrhosis. Lancet, 1 : 1049.
- Shields, R.A.; Mulholland, A.T.; and Elmsle, R.G. (1966) :
Action of aldosterone upon the intestinal transport of potassium, sodium and water. Gut, 7 : 685.
- Skeggs, L.T.; Marsh, W.H.; Kahn, J.R.; and Schumway, N.P. (1954) :
The existence of two forms of hypertensin. J. Exp.Med., 99 : 275.
- Skeggs, L.T.; Lentz, K.E.; Hachstrasser, H.; and Kahn, J.R. (1964) :
The chemistry of renin substrate. Canad. Med. Assoc. J., 90 : 185.
- Skinner, S.L.; Mc Cubbin, J.W.; and Page, I.H. (1964) :
Control of renin secretion. Circ. Res., 13 : 336.
- Skorecki, K.L., and Brenner, B.M. (1982) :
Body fluid homeostasis in congestive heart failure and cirrhosis with ascites. Am. J. Med., 72 : 323.
- Skubitz, K.M.; Craddock, P.R.; Hammerschmidt, D.E.; and August, J.T. (1981) :
Corticosteroids block the binding of chemotactic peptide to its receptor on the granulocytes and cause

- Biosynthesis of corticosteroids. In : Handbook of Physiology. Edited by Blaschko, H.; Sayers, G., and Smith, A.D., Washington, D.C.; American Physiological Society, p. 55.
- Schrier, R.W.; and Bert, T. (1972) :
Mechanism of antidiuretic effect associated with interruption of parasympathetic pathways. J. Clin Invest., 51 : 2613.
 - Sealey, J.E.; and Laragh, J.H. (1971) :
Further studies of a natriuretic substance occurring in human urine and plasma. Circ. Res., 28 (Suppl. 2) : 32.
 - Sealey, J.E.; and Laragh, J.H. (1974) :
A proposed cybernetic system for sodium and potassium homeostasis : coordination of aldosterone and intrarenal physical factors. Kidney Intern., 6 : 281.
 - Sealey, J.E.; Atlas, S.S.; and Laragh, J.H. (1982) :
Plasma prorenin : Physiological and biological characterisation. Clin. Sci., 63 : 133.
 - Sharp, G.W.; and Leaf, A. (1966) :
Mechanism of action of aldosterone. Physiol. Rev., 46 : 593.
 - Sherlock, S. (1970) :
Ascites formation in cirrhosis and its management. Scand. J. Gastroenterol., Suppl. 7 : 9.

- Rothschild, M.A.; Oratz, M.; and Schreiber, S.S. (1972) :
Albumin metabolism. In : Progress in Liver Diseases.
Edited by Popper, H.; and Schaffner, F., New York,
Grune and Stratton, p. 19.
- Russel, G.I.; Bing, R.F.; Swales, J.D.; and Thurston, H.
(1982) :
Effects of pharmacological inhibition of renin,
prostaglandin and kallikrein systems on surgical
correlation of long standing two kidneys one clips
hypertension in the rat. Clin. Sci., 63 : 257.
- Ryan, J.W.; Ryan, V.S.; Schultz, D.R.; Whitaker, C.;
Chung, A.; and Dorer, F.E. (1975) :
Subcellular localisation of pulmonary angiotensin
converting enzyme (kininase II). Biochem. J., 146 :
497.
- Ryan, J.W.; Martin, L.C.; Chung, A.; and Pena, G.A. (1979)
Mammalian inhibitors of angiotensin converting enzyme
(kininase). Adv. Exp. Med. Biol., 120 : 599.

S

- Saldanha, C. (1986) :
Evidence of anti-inflammatory effect of normal
circulating plasma cortisol. Clin. Exp. Rheumatol., 4:
365.
- Samules, L.T.; and Nelson, D.H. (1975) :

- Ratnoff, O.D.; and Patek, A.J. (1942) :
The natural history of Laennec's cirrhosis of the liver: An analysis of 386 cases. Medicine (Baltimore), 21 : 207.
- Reid, I.A.; and Ganong, W.F. (1977) :
Control of aldosterone secretion. In : Hypertension. Edited by Genest, J.; Koiw, E., and Kuchel, O., New York, Mc Graw Hill Book Company, p. 265.
- Rokitansky (1842) :
Quotd from Conn, H.O. (1975) : Cirrhosis. In : Diseases of the Liver (fourth edition). Edited by Schiff, L., Philadelphia, J.B. Lippincott Company, p. 833.
- Rosoff, L.; Zia, P.; Reynolds, T.; and Horton, R. (1975) :
Studies of renin and aldosterone in cirrhotic patients with ascites. Gastroenterology, 69 : 698.
- Rosoff, L. Jr.; Williams, J.; Moulton, P.; Williams, H.; and Sherlock, S. (1979) :
Renal hemodynamics and the renin angiotensin system in cirrhosis : relationship to sodium retention. Dig. Dis. Sci., 24 : 25.
- Ross, G. (1978) :
Editor of : Essentials of Physiology. Chicago, Yearbook Medical Publishers, p. 549.

Gastroenterol., 6 : 203.

- Popper, H.; and Udenfriend, S. (1970) :
Hepatic fibrosis : correlation of biochemical and morphological investigations. Am. J. Med., 49 : 707.
- Postlethwaite, A.E.; Snyderman, R.; and Kang, A.H. (1976):
The chemotactic attraction of human fibroblasts to a lymphocyte derived factor. J. Exp. Med., 144 : 1188.
- Pratt, J.H.; Parkinson, C.A.; Weinberger, M.H.; and Duckworth, W.C. (1985 a) :
Decreases in renin and aldosterone secretions in alloxan diabetes : an effect of insulin deficiency. Endocrinology, 116 : 1712.
- Pratt, J.H.; Turner, D.A.; Mc Ateer, J.A.; and Henry, D.P. (1985 b) :
Beta adrenergic stimulation of aldosterone production by rat isolated adrenal capsular explants. Endocrinology, 117 : 1189.

R

- Rabinowe, S.L.; Taylor, T.; Dlubay, R.G.; and Williams, G.H. (1985) :
Beta endorphin stimulates plasma renin and aldosterone release in normal human subjects. J. Clin. Endocrinol. Metab., 60 : 485.

- Perez-Ayuso, R.M.; Arroyo, V.; Planas, R.; Gaya, J.; Bory, F.; Rimola, A.; Rivera, F.; and Rodés, J. (1983) :
Randomised comparative study of the efficacy of furosemide versus spironolactone in non azotemic cirrhosis with ascites. Relationship between the diuretic response and the activity of the renin aldosterone system. *Gastroenterology*, 84 : 961.
- Peterson, R.E. (1960) :
Clearance of radioactive cortisol in chronic liver diseases. *J. Clin. Invest.*, 39:320.
- Peterson, R.E. (1971) :
Metabolism of adrenal cortical steroids. In : *The human adrenal cortex*. Edited by Christy, M.P., New York, Harper and Row, p. 87.
- Petraglia, F.; Facchinetti, F.; Parrini, D.; Miceli, G.; De Luca, S.; and Genazzani, A.R. (1983) :
Simultaneous circadian variations of plasma ACTH, β -lipotropin, β -endorphin, and cortisol. *Horm. Res.*, 17 : 147.
- Phillips, M.J.; and Steiner, J.W. (1965) :
Electron microscopy of liver cells in cirrhotic nodules. *Am. J. Path.*, 46 : 985.
- Popper, H.; and Orr, W. (1970) :
Current concepts in cirrhosis. *Scand. J.*