

# CONTENTS

VOL. 61, NO. 1

JULY 1981

---

<b>Editorial Review:</b> The HLA system and disease. A. G. CUDWORTH and EVA WOLF	1-5
<b>Editorial Review:</b> Physiology of gas exchange and exertional dyspnoea. K. WASSERMAN	7-13
<b>Editorial Review:</b> Plasma kallikrein and plasmin as activators of prorenin: links between the renin-angiotensin system and other proteolytic systems in plasma. M. A. D. H. SCHALEKAMP and F. H. M. DERKX	15-21
<hr/>	
The disposition of intravenous potassium in normal man: the role of insulin. R. H. STERNS, J. GUZZO and P. U. FEIG	23-28
Intestinal glucose transport in acute viral enteritis in piglets. J. TELCH, R. W. SHEPHERD, D. G. BUTLER, M. PERDUE, J. R. HAMILTON and D. G. GALL	29-34
Glycogen-depletion patterns with isometric and isokinetic exercise in patients after leg injury. B. HULTÉN, P. RENSTRÖM and G. GRIMBY	35-42
Leucocyte ATP and renal failure. M. A. MANSELL, A. J. GRIMES and N. F. JONES	43-46
Changes in renal and urinary kallikrein activity by mannitol-induced osmotic diuresis. G. BÖNNER, M. MARIN-GREZ, D. BECK, M. DEEG and F. GROSS	47-51
Regulation of 25-hydroxy-vitamin D-1 $\alpha$ -hydroxylase in chick isolated renal tubules: effects of prostaglandin E <sub>2</sub> , frusemide and acetylsalicylic acid. J. D. WARK, R. G. LARKINS, J. A. EISMAN and K. R. WILSON	53-59
Renal prostaglandins and water balance: studies in normal volunteer subjects and in patients with central diabetes insipidus. R. DÜSING, R. HERRMANN, K. GLÄNZER, H. VETTER, A. OVERLACK and H. J. KRAMER	61-67
Impaired response of plasma renin activity to tilting after renal transplantation. J. CUNNINGHAM, M. J. VANDENBURG, J. M. P. HOLLY and F. J. GOODWIN	69-73
Acute effects of captopril on blood pressure and circulating hormone levels in salt-replete and depleted normal subjects and essential hypertensive patients. J. A. MILLAR, B. P. MCGRATH, P. G. MATTHEWS and C. K. JOHNSTON	75-83
Pattern of breathing during cigarette smoking. P. J. REES and T. J. H. CLARK	85-90
The influence of a combined oral contraceptive pill and menstrual cycle phase on digital microvascular haemodynamics. J. E. TOOKE, H. TINDALL and G. P. MCNICOL	91-95
The effects of meclofenamate, captopril and phentolamine on organ blood flow in the conscious rabbit. R. A. BANKS and L. J. BEILIN	97-105
<b>SHORT COMMUNICATIONS</b>	
Effect of propranolol therapy on aldosterone responses to angiotensin II and adrenocorticotrophic hormone in essential hypertension. M. S. GOLUB, M. L. TUCK and D. B. FITTINGOFF	107-110
[Asp <sup>1</sup> ,Val <sup>5</sup> ]Angiotensin-(1-8)octapeptide does not stimulate aldosterone secretion in sodium-depleted sheep. B. A. SCOGGINS, J. G. MCDOUGALL, ALDONA BUTKUS, J. P. COGHLAN, D. A. DENTON, K. J. HARDY and R. D. WRIGHT	111-113
Changes in vascular ionic composition at different stages of DOC-salt hypertension in the rat. M. F. VILLAMIL, C. AMORENA, J. PONCE, A. MÜLLER and A. C. TAQUINI	115-118
Effect of hyperprolactinaemia due to pituitary tumour on serum albumin, protein and oncotic pressure. I. E. BRAJKOVICH, R. S. DE LEON and K. MASHITER	119-121

- Urinary ligandin and glutathione *S*-transferase in gentamicin-induced nephrotoxicity in the rat. D. A. FEINFELD, G. M. FLEISCHNER and K. M. ARIAS 123-125

#### CORRESPONDENCE SECTION

- Ethinylloestradiol and prostacyclin activity in rats. E. N. WARDLE 127

VOL. 61, NO. 2

AUGUST 1981

- 
- Editorial Review:** Regulation of hepatic triacylglycerol synthesis and lipoprotein metabolism by glucocorticoids. D. N. BRINDLEY 129-133
- Editorial Review:** Calcium ions, hormones and mitochondrial metabolism. R. M. DENTON and J. G. McCORMACK 135-140
- 
- Proteins in the urine associated with Duchenne muscular dystrophy and other neuromuscular diseases. N. FREARSON, R. D. TAYLOR and S. V. PERRY 141-149
- Arterial plasma histamine after exercise in normal individuals and in patients with exercise-induced asthma. J. P. R. HARTLEY, T. J. CHARLES, R. D. H. MONIE, A. SEATON, W. H. TAYLOR, A. WESTWOOD and J. D. WILLIAMS 151-157
- Venous plasma histamine in exercise- and hyperventilation-induced asthma in man. P. J. BARNES and M. J. BROWN 159-162
- Respiratory activity of the vocal chords in normal subjects and patients with airflow obstruction: an electromyographic study. JULIA PAYNE, T. HIGENBOTTAM and G. GUINDI 163-167
- Haemodynamics, plasma noradrenaline and plasma renin in hypertensive and normotensive teenagers. A. HOFMAN, J. T. R. C. ROELANDT, F. BOOMSMA, M. A. D. H. SCHALEKAMP and H. A. VALKENBURG 169-174
- Role of the brain iso-renin-angiotensin system in experimental hypertension in rats. H. SUZUKI, K. KONDO, M. HANDA and T. SARUTA 175-180
- Increased intralymphocytic sodium content in essential hypertension: an index of impaired Na<sup>+</sup> cellular metabolism. E. AMBROSIONI, F. V. COSTA, L. MONTEBUGNOLI, F. TARTAGNI and B. MAGNANI 181-186
- Inhibition of the renin-angiotensin-aldosterone system by L-dopa with and without inhibition of extracerebral dopa decarboxylase in man. C. BARBIERI, R. CALDARA, C. FERRARI, ROSA MARIA CROSSIGNANI and M. RECCHIA 187-190
- Effect of hypertonic and hypotonic infusions on aldosterone in conscious sodium-depleted dogs. JENNIFER W. CHILDERS and E. G. SCHNEIDER 191-199
- Evaluation of the mineralocorticoid activity of 18-hydroxycorticosterone. G. HUSTON, V. I. MARTIN, E. A. S. AL-DUJAILI and C. R. W. EDWARDS 201-206
- Total-body protein turnover in human premature neonates: effects of birth weight, intrauterine nutritional status and diet. P. B. PENCHARZ, M. MASSON, F. DESGRANGES and A. PAPAGEORGIOU 207-215
- The excretion of isotope in urea and ammonia for estimating protein turnover in man with [<sup>15</sup>N]glycine. E. B. FERN, P. J. GARLICK, MARGARET A. McNURLAN and J. C. WATERLOW 217-228
- Study of the carbohydrate content of mucus glycoproteins from normal and diseased colons. J. R. CLAMP, G. FRASER and A. E. READ 229-234

- Relationship between plasma high-density lipoprotein concentrations and lipoprotein lipase and hepatic lipase activities in children with hyperlipidaemia. T. R. GAMLEN, E. LAYWARD, F. MCTAGGART and D. P. R. MULLER 235-240

#### SHORT COMMUNICATIONS

- Dexamethasone, aldosterone and kallikrein release by isolated rat kidney. C. P. VIO, J. S. ROBLERO and H. R. CROXATTO 241-243
- Changes in plasma renin activity after hypoglycaemia in sympathectomized man. B. M. FRIER, R. J. M. CORRALL, J. L. PRITCHARD and P. S. SEVER 245-247
- Effect of sodium intake on angiotensin-converting enzyme activity of aorta in rats. K. MIZUNO, S. HATA and S. FUKUCHI 249-251
- Increased hepatic fibrogenesis in the cholesterol-fed mouse. S. P. LEE 253-256

VOL. 61, NO. 3

SEPTEMBER 1981

- 
- Editorial Review:** Water and ionic transfer pathways of mammalian large intestine. C. J. EDMONDS 257-263
- Editorial Review:** Cardiac sympathetic nerves as the final common pathway in the induction of adaptive cardiac hypertrophy. I. ÖSTMAN-SMITH 265-272
- 

- Effects of clonidine on aortic pressure-diameter and elastic stiffness-stress relations in anaesthetized rabbits. A. FRIGGI and H. BODARD 273-279
- Captopril attenuates adrenergic vasoconstriction in rat mesenteric arteries by angiotensin-dependent and -independent mechanisms. M. G. COLLIS and J. R. KEDDIE 281-286
- Plasma and interstitial volumes in essential hypertension: relationship to blood pressure. R. F. BING and A. J. SMITH 287-293
- Vasopressin in the plasma of stroke-prone spontaneously hypertensive rats. W. RASCHER, E. WEIDMANN and F. GROSS 295-298
- Effect of  $\beta$ -adrenoceptor blockade on exercise performance and metabolism. P. LUNDBORG, H. ÅSTRÖM, C. BENGTSSON, E. FELLENIOUS, H. VON SCHENCK, L. SVENSSON and U. SMITH 299-305
- Effect of extracellular potassium on the transport of sodium and potassium in rat thymocytes. R. B. JONES, J. PATRICK and P. J. HILTON 307-312
- Increased sodium content and altered sodium transport in thymocytes of spontaneously hypertensive rats. R. B. JONES, J. PATRICK and P. J. HILTON 313-316
- Effect on blood lipids and haemostasis of a supplement of cod-liver oil, rich in eicosapentaenoic and docosahexaenoic acids, in healthy young men. T. A. B. SANDERS, MARGUERITE VICKERS and A. P. HAINES 317-324
- Effects of a meal on plasma clearance of [ $^{14}$ C]glycocholic acid and indocyanine green in man. J. H. MARIGOLD, I. T. GILMORE and R. P. H. THOMPSON 325-330
- Effect of pH on muscle glycolysis during exercise. J. R. SUTTON, N. L. JONES and C. J. TOEWS 331-338
- Detection and interaction of elastic and flow-resistive respiratory loads in man. S. U. SHAHID, B. A. GODDARD and J. B. L. HOWELL 339-343

#### SHORT COMMUNICATIONS

- Cardiovascular effects of vasopressin infused into the vertebral circulation of conscious dogs. J. F. LIARD, O. DÉRIAZ, M. TSCHOPP and J. SCHOUN 345-347

## CORRESPONDENCE SECTION

'Metabolic pool' and the use of $^{15}\text{N}$ -labelled amino acids. M. JEEVANANDAM	349-350
MEDICAL RESEARCH SOCIETY. Papers read at the 50th Anniversary Meeting held at the Royal College of Physicians, 12th December 1980	353-368
MEDICAL RESEARCH SOCIETY (Meeting on 10 and 11 July 1981). Communications	1P-47P

VOL. 61, NO. 4

OCTOBER 1981

---

<b>Editorial Review: Prostacyclin: homeostatic regulator or biological curiosity? S. MONCADA and J. R. VANE</b>	369-372
---	---------

---

Characterization of aggression-provoked renin from an unknown source in male mice. K. POULSEN and E. B. PEDERSEN	373-378
Heart rate variability in healthy subjects measured with a bedside computer-based technique. S. E. SMITH and S. A. SMITH	379-383
A non-invasive $\gamma$ -camera technique for the measurement of intrarenal flow distribution in man. S. M. GRUENEWALD, C. C. NIMMON, M. K. NAWAZ and K. E. BRITTON	385-389
Evidence for inhibitory and anti-ouabain-like factors in leukaemic blood. M. A. MIR	391-397
Effect of binding to plasma proteins on the interpretation of plasma cortisol concentrations after accidental injury. R. N. BARTON and B. J. PASSINGHAM	399-405
Water and electrolyte composition of urine and ileal fluid and its relationship to renin and aldosterone during dietary sodium deprivation in patients with ileostomies. S. MOSS, D. GORDON, MARY L. FORSLING, W. S. PEART, V. H. T. JAMES and SHIRLEY A. RODDIS	407-415
Circulating dopamine: its effect on the plasma concentrations of catecholamines, renin, angiotensin, aldosterone and vasopressin in the conscious dog. S. G. BALL, M. TREE, J. J. MORTON, G. C. INGLIS and R. FRASER	417-422
Urine free dopamine in normal primigravid pregnancy and women taking oral contraceptives. C. M. PERKINS, K. W. HANCOCK, G. F. COPE and M. R. LEE	423-428
Methods to assess breathlessness in healthy subjects: a critical evaluation and application to analyse the acute effects of diazepam and promethazine on breathlessness induced by exercise or by exposure to raised levels of carbon dioxide. R. D. STARK, S. A. GAMBLES and J. A. LEWIS	429-439
Direct measurement of the hepatointestinal extraction of zinc in cirrhosis and hepatitis. P. W. N. KEELING, W. RUSE, J. BULL, B. HANNIGAN and R. P. H. THOMPSON	441-444
Measurement of hypozincaemia in mice: sensitive test for detection of pyrogens. SUSAN BOOBIS and ROSE E. HARTLEY	445-449
3-Methylbutanal metabolism in the adult rat. S. KUBOW, G. H. ANDERSON, L. M. BLENDIS and E. GOLDBERG	451-455
Total body nitrogen and its relation to body potassium and fat-free mass in healthy subjects. L. BURKINSHAW, D. B. MORGAN, N. P. SILVERTON and R. D. THOMAS	457-462
Hypoglycaemia, hypothermia and shivering in man. E. A. M. GALE, T. BENNETT, J. HILARY GREEN and I. A. MACDONALD	463-469
Plasma levels of vitamin D metabolites in diphosphonate-treated rats. U. TRESCHSEL, C. M. TAYLOR, J. A. EISMAN, J.-P. BONJOUR and H. FLEISCH	471-476
A comparison of radioactive calcium absorption tests with net calcium absorption. D. H. MARSHALL and B. E. C. NORDIN	477-481

- Protection against superoxide and hydrogen peroxide in synovial fluid from rheumatoid patients. D. R. BLAKE, N. D. HALL, D. A. TREBY, B. HALLIWELL and J. M. C. GUTTERIDGE 483-486
- Urinary crystal growth: effect of inhibitor mixtures. P. G. WERNESS, JAN H. BERGERT and KAREN E. LEE 487-491

#### SHORT COMMUNICATION

- The effect of indomethacin on vasopressin-induced antidiuresis in man. P. L. PADFIELD and R. J. GREKIN 493-496

VOL. 61, NO. 5

NOVEMBER 1981

- 
- Editorial Review:** The small intestine: mechanisms of local immunity and gluten sensitivity. M. N. MARSH 497-503
- 
- Carotid sinus reflex control of renin release in hypertensive subjects with high renin secretion. G. MANCIA, A. FERRARI, G. LEONETTI, LUISA GREGORINI, LAURA TERZOLI, G. PARATI, C. BIANCHINI and A. ZANCHETTI 505-509
- Effect of adrenalectomy on the development of isolation induced hypertension in rats. S. M. GARDINER, K. E. MILMER and T. BENNETT 511-519
- Accentuated hypotensive effect of sodium nitroprusside in man after captopril. G. L. JENNINGS, J. S. GELMAN, J. R. STOCKIGT AND P. I. KORNER 521-526
- Plasma angiotensin II concentration regulates vascular but not adrenal responsiveness to restriction of sodium intake in normal man. BESS F. DAWSON-HUGHES, T. J. MOORE, R. G. DLUHY, N. K. HOLLENBERG and G. H. WILLIAMS 527-534
- Blunted pressor response to angiotensin and sympathomimetic amines in bile-duct ligated dogs. J. P. M. FINBERG, H. A. SYROP and O. S. BETTER 535-539
- Calcium efflux and steroid output from superfused rat adrenal cells: effects of potassium, adrenocorticotrophic hormone, 5-hydroxytryptamine, adenosine 3':5'-cyclic monophosphate and angiotensins II and III. B. C. WILLIAMS, J. G. MCDUGALL, J. F. TAIT and S. A. S. TAIT 541-551
- Comparison of intrarenal and extrarenal converting enzyme inhibition by SQ 20 881 on canine renal blood flow. P. C. WONG and B. G. ZIMMERMAN 553-557
- Increased cutaneous vasoreactivity to cold in anorexia nervosa. P. LUCK and A. WAKELING 559-567
- Mechanical properties and reactivity of vessels in isolated perfused lungs of chronically hypoxic rats. CELIA J. EMERGY, DENISE BEE and GWENDA R. BARER 569-580
- Reduced airway vagal tone in diabetic patients with autonomic neuropathy. N. J. DOUGLAS, I. W. CAMPBELL, D. J. EWING, B. F. CLARKE and D. C. FLENLEY 581-584
- Variations in individual organ release of noradrenaline measured by an improved radioenzymatic technique; limitations of peripheral venous measurements in the assessment of sympathetic nervous activity. M. J. BROWN, D. A. JENNER, D. J. ALLISON and C. T. DOLLERY 585-590
- Novel double-isotope technique for enzymatic assay of catecholamines, permitting high precision, sensitivity and plasma sample capacity. M. J. BROWN and D. A. JENNER 591-598
- Chemosensitivity in patients with diabetic neuropathy. IKUO HOMMA, SHIGERU KAGEYAMA, TAKESHI NAGAI, IKUO TANIGUCHI, TOSHIO SAKAI and MASAKAZU ABE 599-603

Renal salt and water handling in water immersion in the nephrotic syndrome. G. M. BERLYNE, J. SUTTON, C. BROWN, M. V. FEINROTH, M. FEINROTH, A. J. ADLER and E. A. FRIEDMAN	605-610
On the extravascular pool of low-density lipoprotein in rat liver. G. SIGURDSSON, D. M. SHAMES and R. J. HAVEL	611-613
On the mechanism of plasma cholesterol reduction in the rat given probucol. S. BALASUBRAMANIAN, D. M. BEINS and L. A. SIMONS	615-619
Effects of thyroparathyroidectomy, phosphate depletion and disphosphonate therapy on acute uraemic extra-osseous calcification in the rat. L. S. IBELS and A. C. ALFREY	621-626
Effect of exercise on protein turnover in man. M. J. RENNIE, R. H. T. EDWARDS, S. KRYWAWYCH, C. T. M. DAVIES, D. HALLIDAY, J. C. WATERLOW and D. J. MILLWARD	627-639
Role of prostaglandins in bile salt-induced changes in rat colonic structure and function. D. S. RAMPTON, N. F. BREUER, S. G. VAJA, G. E. SLADEN and R. H. DOWLING	641-648

### SHORT COMMUNICATIONS

Associations between sex hormones, thyroid hormones and lipoproteins. R. F. HELLER, N. E. MILLER, B. LEWIS, A. VERMEULEN, ANGELA FAIRNEY, V. H. T. JAMES and A. V. SWAN	649-651
Effect of a long acting octapeptide analogue of somatostatin on growth hormone and pancreatic and gastrointestinal hormones in man. A. J. BARNES, R. G. LONG, T. E. ADRIAN, W. VALE, M. R. BROWN, J. F. RIVIER, J. HANLEY, M. A. GHATEL, D. L. SARSON and S. R. BLOOM	653-656

VOL. 61, NO. 6

DECEMBER 1981

---

<b>Editorial Review:</b> Why is myocardial ischaemia so commonly subendocardial? J. I. E. HOFFMAN	657-662
---	---------

---

Contribution of stenosis resistance to the rise in total peripheral resistance during experimental renal hypertension in conscious dogs. W. P. ANDERSON, P. I. KORNER, J. A. ANGUS and C. J. JOHNSTON	663-670
A comparison of physical characteristics of active renin isolated from aorta, plasma and kidney of the rat. J. D. BARRETT, P. EGENA, J. F. KRALL and M. P. SAMBHI	671-678
Isoprenaline-induced secretion of active and inactive renin in anaesthetized rabbits and by kidney cortex slices. H. K. RICHARDS, A. R. NOBLE and K. A. MUNDAY	679-684
Body fluid volumes in the spontaneously hypertensive rat. M. BIANCHI, G. BELLINI, H. HESSAN, K. E. KIM, C. SWARTZ and M. FERNANDES	685-691
Respiratory arterial pH and $PCO_2$ oscillations in patients with chronic obstructive airways disease. G. M. COCHRANE, J. G. PRIOR and C. B. WOLFF	693-702
Production of collagenase and inhibitor (TIMP) by normal, rheumatoid and osteoarthritic synovium <i>in vitro</i> : effects of hydrocortisone and indomethacin. MARY B. MCGUIRE, GILLIAN MURPHY, J. J. REYNOLDS and R. G. G. RUSSELL	703-710
Characterization of collagenase, other metallo-proteinases and an inhibitor (TIMP) produced by human synovium and cartilage in culture. GILLIAN MURPHY, MARY B. MCGUIRE, R. G. G. RUSSELL and J. J. REYNOLDS	711-716
Diurnal variation in the intestinal toxicity of 5-fluorouracil in the rat. M. L. G. GARDNER and JANE A. PLUMB	717-722

Effect of dihydroxylated metabolites of vitamin D <sub>3</sub> on calcium absorption in uraemic man. N. MUIRHEAD, G. R. D. CATTO, S. GVOZDANOVIC, D. GVOZDANOVIC and N. EDWARD	723-727
Sulphamidase activity in leucocytes, cultured skin fibroblasts and amniotic cells: diagnosis of the Sanfilippo A syndrome with the use of a radiolabelled disaccharide substrate. J. J. HOPWOOD and HELEN ELLIOTT	729-735
Creatine excretion as an index of myofibrillar protein mass in dystrophic mice. C. E. MURRAY, D. M. WARNES, F. J. BALLARD and F. M. TOMAS	737-741
Homocysteine in the plasma of renal transplant recipients: effects of cofactors for methionine metabolism. D. E. L. WILCKEN, VATSALA J. GUPTA and A. K. BETTS	743-749
Effect of strain and sex on the induction of hyperalbuminaemic proteinuria in the rat. GILLIAN M. LAWRENCE and D. B. BREWER	751-756
Effect of renal failure on erythrocyte purine nucleotide, nucleoside and base concentrations and some related enzyme activities. M. A. MANSELL, J. ALLSOP, M. E. NORTH, R. J. SIMMONDS, R. A. HARKNESS and R. W. E. WATTS	757-764
Peritubular interaction of unconjugated bilirubin in isolated perfused rat kidney. MARIA MONICA ELIAS, E. J. COMIN, SUSANA GALEAZZI and E. A. RODRIGUEZ GARAY	765-771
Urinary excretion of bile acids in cholestasis: evidence for renal tubular secretion in man. C. L. CORBETT, T. C. BARTHOLOMEW, BARBARA H. BILLING and J. A. SUMMERFIELD	773-780
<b>SHORT COMMUNICATIONS</b>	
Role of vagal airway reflexes in control of ventilation in pulmonary fibrosis. J. SAVOY, S. DHINGRA and N. R. ANTHONISEN	781-784
Kassinin and substance P stimulate somatostatin release in the rat. H.-G. GÜLLNER, VIRGINIA HARRIS and R. H. UNGER	785-787
Substrate oxidation shortly after accidental injury in man. R. A. LITTLE, H. B. STONER and K. N. FRAYN	789-791
The relationship between plasma lithium and the renal responsiveness to arginine vasopressin in man. M. D. PENNEY, R. P. HULLIN, D. P. SRINIVASAN and D. B. MORGAN	793-795

## CORRECTION

## Volume 60

page 611, left-hand column, lines 35-38 should read 'there appears to be no evidence that more than one carrier-mediated transport system is involved in the translocation of a neutral dipeptide (Gly-Sar), an acidic (Glu-Glu) or a dibasic (Lys-Lys) peptide. Clearly though . . .'