VOLUME 48

DECEMBER 1969

NUMBER 12

## The Journal of Clinical Investigation

#### **EDITED FOR**

#### THE AMERICAN SOCIETY FOR CLINICAL INVESTIGATION, INC.

Conversion of blood androgens to estrogens in normal adult men and women. Christopher Longcope Tatsuo Kato, and Richard Horton

Genetic control of the phenobarbital-induced shortening of plasma antipyrine half-lives in man. Elliot S. Vesell and John G. Page

Natriuretic activity in plasma and urine of salt-loaded man and sheep. Jean E. Sealey, J. Dianne Kirshman, and JOHN H. LARAGH

Plasma insulin: fluctuations in the "big" insulin component in man after glucose and other stimuli. PHILLIP GORDEN and JESSE ROTH

Inhibition of steady-state intestinal absorption of long-chain triglyceride by medium-chain triglyceride in the unanesthetized rat. Susanne Bennett Clark and Peter R. Holt

Decreased myocardial adenyl cyclase activity in hypothyroidism. GERALD S. LEVEY, C. LYNN SKELTON, and STEPHEN E. EPSTEIN

Congenital dysprothrombinemia: an inherited structural disorder of human prothrombin. SANDOR S. SHAPIRO, JOSE MARTINEZ, and RUTH R. HOLBURN

Carbohydrate metabolism in pregnancy. VI. Plasma fuels, insulin, liver composition, gluconeogenesis, and nitrogen metabolism during late gestation in the fed and fasted rat. EMILO HERRERA, ROBERT H. KNOPP, and NORBERT FREINKEL

Amino acid balance across tissues of the forearm in postabsorptive man. Effects of insulin at two dose levels.

Thomas Pozefsky, Philip Felig, Jordan D. Tobin, J. Stuart Soeldner, and George F. Cahill, Jr.

Structural polymorphism of the fourth component of human complement. Stephen I. Rosenfeld, Shaun Ruddy, and K Frank Austen

Inheritance of human α<sub>1</sub>-acid glycoprotein (orosomucoid) variants. A. MYRON JOHNSON, KARL SCHMID, and CHESTER A. ALPER

Dopamine (3-hydroxytyramine) metabolism in parkinsonism. McC. Goodall and Harold Alton Insulin responses to glucose: evidence for a two pool system in man. D. PORTE, JR., and A. A. PUPO

Phospholipases in arterial tissue. IV. The role of phosphatide acyl hydrolase, lysophosphatide acyl hydrolase, and sphingomyelin choline phosphohydrolase in the regulation of phospholipid composition in the normal human a

Micropuncture study of hypertonic mannitol diuresis in the proximal and distal tubule of the dog kidney JOHN F. SEELY and JOHN H. DIRKS

Hemoglobin Yoshizuka (G10(108)β asparagine—aspartic acid): a new variant with a reduced oxygen affinity from a Japanese family. Таказні Імамика, Shigeru Fujita, Yoshiro Ohta, Motosuke Hanada, and Toshiyuki Yananse

Metabolic clearance and production rates of human growth hormone. Andrew L. Taylor, Joseph L. Finster, and Daniel H. Mintz

Cori cycle activity in man. CHRISTINE WATERHOUSE and JULIAN KEILSON

Very low density lipoproteins in intestinal lymph: role in triglyceride and cholesterol transport during fat absorption. Robert K. Ockner, Faith B. Hughes, and Kurt J. Isselbacher

Immunochemical studies in four cases of alpha chain disease. Maxime Seligmann, Edith Mihaesco, Daniel Hurez, Constantin Mihaesco, Jean-Louis Preud'homme, and Jean-Claude Rambaud

Galactose-1-phosphate uridyltransferase and galactokinase activity in cultured human diploid fibroblasts and peripheral blood leukocytes. I. Analysis of transferase genotypes by the ratio of the activities of the two enzymes. Thomas A. Tedesco and William J. Mellman

Failure of bile acids to control hepatic cholesterogenesis: evidence for endogenous cholesterol feedback. HANS J. WEIS and JOHN M. DIETSCHY

Two distinct groups of immunoglobulin A(IgA) revealed by peptic digestion. I. DODD WILSON and R. C. WILLIAMS, JR.

Indexes to Volume 48

Yearly subscription rates: \$15.00 (30.00 for 1969) payable in U.S. funds may be obtained from

THE JOURNAL OF CLINICAL INVESTIGATION The Rockefeller University, New York 10021, U.S.A.

## The Journal of Endocrinology

## Volume 45, Number 2. October 1969

- D. K. O. CHAN, I. CHESTER JONES AND S. PONNIAH Studies on the pressor substances of the caudal neurosecretory system of teleost fish: bioassay and fractionation
- D. K. O. CHAN AND I. CHESTER JONES Pressor effects of neurohypophysial peptides in the eel, Anguilla anguilla L., with some reference to their interaction with adrenergic and cholinergic receptors
- IOANA MILCU, LYDIA NANU-IONESCU, RODICA MARCEAN AND VIOLETA IONESCU The influence of the pineal gland on nitrogen metabolism
- C. S. NICOLL, J. A. PARSONS, R. P. FIORINDO AND C. W. NICHOLS, JR Estimation of prolactin and growth hormone levels by polyacrylamide disc electrophoresis
- s. Y. CHOW AND D. M. WOODBURY Radioactive inulin, sulphate and chloride spaces and electrolytes in the thyroid gland of rats at different ages
- B. E. ELEFTHERIOU, R. L. CHURCH, A. J. ZOLOVICK, R. L. NORMAN AND M. L. PATTISON Effects of amygdaloid lesions on regional brain RNA base ratios
- E. H. D. CAMERON, T. JONES, A. B. M. ANDERSON AND K. GRIFFITHS Further studies on the relationship between C<sub>10</sub>- and C<sub>21</sub>-steroid synthesis in the human adrenal gland
- K, DIXON AND V. SCHWARZ Uptake of aldosterone by human skin and stimulation of RNA synthesis in the sweat gland in vitro
- F. J. EBLING, ERIKA EBLING AND J. SKINNER The influence of pituitary hormones on the response of the sebaceous glands of the male rat to testosterone
- F. J. EBLING, ERIKA EBLING AND J. SKINNER The influence of the pituitary on the response of the sebaceous and preputial glands of the rat to progesterone
- E. J. CLEGG, IAN CARR AND M. NIEMI The effect of a second dose of cadmium salts on vascular permeability in the rat testis
- B. MALAMOS, P. SFIKAKIS AND P. PANDOS The renal handling of phosphate in thyroid disease
- S. A. BARKER, C. J. GRAY, J. F. KENNEDY AND W. R. BUTT Evaluation of human follicle-stimulating hormone preparations
- P. J. BENTLEY The effect of valinomycin on the toad bladder: antagonism to vasopressin and aldosterone
- CORNELIA P. CHANNING Steroidogenesis and morphology of human ovarian cell types in tissue culture

#### Short communications

- R. M. LEQUIN, W. H. L. HACKENG, W. SCHOPMAN AND A. D. CARE Comparison between the bioassay and radioimmunoassay of calcitonin in plasma of several species
- R. K. MURTON, K. D. BAGSHAWE AND B. LOFTS The circadian basis of specific gonadotrophin release in relation to avian spermatogenesis
- R. H. DAVIS, L. MCGOWAN AND E. VILLANUEVA Effect of testosterone on the cytology of peritoneal fluid in mice
- R. J. LEVIN The effects of hormones on the absorptive, metabolic and digestive functions of the small intestine

50s. net (\$8.50). Annual subscription £24 net (\$84.00) for twelve issues

## **CAMBRIDGE UNIVERSITY PRESS**

# FUNDAMENTALS OF CLINICAL ENDOCRINOLOGY

G. A. Smart, BSc, MD, MB, BS, FRCP

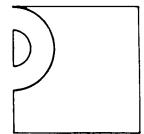
R. Hall, BSc, MD, MB, BS, MRCP

J. Anderson, MB, BS, MRCP

This is a book aimed at senior medical students and physicians reading for higher examinations. It employs a biochemical approach and gives full details of the investigations required for the many new endocrine syndromes. It is hoped that this book will fill the great gap in endocrinology textbooks which at present exists.

Contents: Anterior Pituitary – Adrenal Cortex – Adrenal Medulla – Thyroid – Parathyroid – Ovary – Testis – Hormones of the GI Tract – Stature – Pregnancy – Water and Electrolytes – CHO Fat and Protein Metabolism, Diabetes Mellitus, Obesity, Hypoglycaemia – Gynaecomastia – Puberty – Hirsutism – Infertility – Hormonal Aspects of Malignant Disease.

320 pages **80s.** net



PITMAN MEDICAL AND SCIENTIFIC PUBLISHING COMPANY LIMITED

31 Fitzroy Square London WIP 6BH

### NOTES FOR CONTRIBUTORS

- 1. All communications should be addressed to the Editor of Clinical Science, Professor J. M. Ledingham, Medical Unit, The London Hospital, Whitechapel, London, E.1. Contributors must send two complete copies of the text and tables and three copies of the figures (see 10 below) and retain one copy, as the Editor does not accept responsibility for damage or loss of papers submitted.
- 2. Papers should deal with the field of clinical investigation in the broadest sense of the term. They are accepted subject to the understanding that no substantial part has been, or will be, published elsewhere. This does not refer to abstracts of oral communications which are printed in the Proceedings of certain Societies nor to Symposia. Papers accepted remain the copyright of the journal.

nor to Symposia. Papers accepted remain the copyright of the journal.

The attention of authors is drawn to the M.R.C. pamphlet on human investigations taken from their report of 1962/63; this deals with the ethical problems of experimental procedures on human beings.

- 3. Manuscripts should be typewritten (double-space) with wide margins. On a single separate sheet there must be:
  - (a) Title and short title. (The short title should also appear at the head of each page and should not exceed forty-five characters including spaces.)
  - (b) Authors' names and initials, but not degrees or appointments. Women authors should use one given name.
    - (c) Department/s in which the work was done.
  - (d) The name and postal address of the author to whom correspondence should be addressed. This will appear as a footnote.

The authors' present addresses, if different from the departments in which the work was done, may, if essential, be shown as a footnote.

- 4. The onus of preparing a paper in a form suitable for sending to press lies in the first place with the author and the need for editorial revision of badly prepared typescripts or diagrams will delay publication. Papers on specialized subjects should be presented so that they are intelligible to the ordinary reader of the journal.
- 5. Generally, papers should be divided clearly into the following sections: (a) Summary (typed on a separate sheet): about 3% of the length of the paper but not exceeding 250 words; the paragraphs of the Summary should be numbered; (b) Introduction; (c) Materials and Methods; (d) Results: the use of both Tables and Figures to illustrate the same results will only rarely be permitted; (e) Discussion; (f) Acknowledgments (including financial support); (g) References: which should be in alphabetical order of (first) authors in the following form:
  - BRIGGS, J.N. & HESELTINE, J.R. (1952) Trachectomy in acute obliterative laryngotracheobronchitis. British Medical Journal, ii, 1064-1067.
  - Brown, J.J., Chapuis, G. & Robertson, J.I.S. (1964) The effect of prolonged intravenous infusion of angiotensin in the rabbit. Clinical Science, 26, 165-175.

The first and last page numbers should be given. The titles of journals should not be abbreviated.

References in the text should follow the Harvard system in the style: Brown, Chapuis & Robertson (1964) on the first quotation and, if there are more than two authors, Brown et al. (1964) in subsequent quotations. For four or more authors, the first name followed by et al. should be used on all occasions.

6. Clinical Science uses as standards for spelling the Concise Oxford Dictionary of Current English (Oxford: Clarendon Press) and MacNalty's British Medical Dictionary (London: Caxton Publishing Co.). Full names of uncommon abbreviations must be given with the first mention; new abbreviations should be coined only for unweildy names and should not be used at all unless those names occur frequently. In the Title and Summary unusual abbreviations should be identified; in the Introduction and Discussion they should be used sparingly. Abbreviations of units should conform with those given in British Standards 1954 (amended 1960) with minor modifications\* e.g.:

gram(s)	g	cubic millimetre(s)	mm³
kilogram(s)	kg	millimetre(s)	mm
milligram(s) (10-3 g)	mg	*millicurie(s)	mCi
microgram(s) (10 <sup>-6</sup> g)	μg	*milliequivalent	mEq
nanogram(s) (10-9 g)	ng	molar	M
picogram(s) (10 <sup>-12</sup> g)	pg	litre(s)	ì
*hour(s)	hr	millilitre(s)	ml
minute(s)	min	gravitational acceleration	g
centimetre(s)	cm	*micron(s)	μ
*second(s)	sec	per cent	μ %
isotopic mass number places as		1311	
fractions, ratios and rates as		🛊, ml/min	

NB. The abbreviation for the plural of a unit is the same as that for the singular unless confusion is likely to arise.

Moles: The word 'mole' is used with the meaning of 'gram-molecule'. It must not be abbreviated to 'mol.' or 'M'. The submultiples will be printed as 'm-mole' and ' $\mu$ mole'. Molar (M) should be used for moles/l-molal for moles/kg solvent.

- 7. Statistical Treatment of Results. It is usually unnecessary to publish the individual results of a number of similar experiments. When the object is to determine the value of a quantity or the statistical characteristics of a population, sufficient information is usually conveyed by the following provided that the distribution is normal: (i) the number of individual experiments; (ii) the mean value; (iii) the standard deviation (SD), the coefficient of variation, or the standard error of the mean (SEM) as may be appropriate. A convenient form for inclusion in a Table is, for example, 263 (SEM 2.5, n = 10), where n = 10 is the number of results. Where a significant difference is claimed between the means (or other statistics) of two groups of results, an appropriate test of significance should be used.
- 8. Illustrations and tables are expensive to print. Their number should be kept to a minimum. Their approximate position in the paper should be indicated in the margin of the text. In special cases by agreement with the Editor a legend may be added indicating that details, e.g. protocols, tables, statistical analyses, have been deposited with the Librarian at the Royal Society of Medicine who will issue copies on request at a small charge.
- 9. Reference to tables should be in Arabic numerals, e.g. Table 3, and tables should include titles which make their meaning clear without reference to the text. Tables should be typed separately from the text.
- 10. Reference to figures should be in Arabic numerals, e.g. Fig. 3, and should be numbered in order of appearance. Figures should be kept to a minimum and those requiring half-tone blocks should be avoided as far as possible. Those for half-tone blocks should be submitted as glossy prints. In the case of line figures one copy of each should be a photocopy (not a photostat) of good quality, preferably unlettered and of approximately twice the finished size. This will have final lettering and shading added by the publishers. A horizontal or square layout is preferred to a vertical one, because a vertical design is wasteful of space. If two figures can be conveniently printed side by side a vertical layout is acceptable. The preferred symbols for experimental points are  $0, \Delta, \Box, \bullet, A$ . The same symbols must not be used on two curves where the points might be confused. The symbols  $\times$  or + should be avoided. For scatter diagrams filled-in symbols are preferred.

A list of captions for the figures should be submitted on a separate sheet and should make interpretation possible without reference to the text.

- 11. Special Terminology. Biochemical nomenclature should conform to that given in the current edition of 'Suggestions and Instructions to Authors' issued by the *Biochemical Journal*. Wherever possible physiological nomenclature should be in accordance with that given in the current edition of 'Suggestions to Authors' issued by the *Journal of Physiology*.
- 12. Proof corrections are expensive and correction of other than printers' errors may have to be charged to the author.
- 13. When a paper has been accepted for publication, the Author will be asked to sign a statement vesting the copyright to the Editorial Board.
- 14. Twenty-five offprints are supplied free and additional copies may be obtained at terms based on the cost of production which will be given with the proofs. All offprints should be ordered when proofs are returned.

## THE BIOCHEMICAL JOURNAL

#### Published by THE BIOCHEMICAL SOCIETY

Vol. 115, No. 3

NOVEMBER, 1969

Transcription of bacteriophage T4 deoxyribonucleic acid in vitro. J. O. BISHOP & F. W. ROBERTSON

Appendix: Methods for the analysis of deoxyribonucleic acid-ribonucleic acid hybridization data. J. O. BISHOP, F. W. ROBERTSON, J. A. BURNS & M. MELLI

Goat immunoglobin G. Peptide chains and terminal residues. By D. GIVOL & E. HURWITZ

Comparison of the protein-synthesizing machinery in the skeletal muscle of normal and dystrophic Bar Harbor mice. D. C. Watts & J. D. Reid

A new approach to the analysis of hybridization of bacterial nucleic acids. Analysis of ribosomal ribonucleic acids of Bacillus subtilis. R. J. AVERY & J. E. M. MIDGLEY

An analysis of the ribosomal ribonucleic acids of Escherichia coli by hybridization techniques. R. J. AVERY, J. E. M. MIDGLEY & G. H. PIGOTT

The effect of dietary and hormonal conditions on the activities of glycolytic enzymes in rat epididymal adipose tissue. E. D. SAGGERSON & A. L. GREENBAUM

The effect of magnesium ion deprivation on the synthesis of mucopeptide and its precursors in *Bacillus subtilis*. A. J. GARRETT Molecular cohesion in plant cell walls. Methylation analysis of pectic polysaccharides from the cotyledons of white mustard. D. A. REES & N. J. WIGHT

Calorimetric studies of the haemoglobin-haptoglobin reaction. E. C. ADAMS & M. R. WEISS

The nature of the sex-linked differences in glutathione peroxidase activity and aerobic oxidation of glutathione in male and female rat liver. R. E. PINTO & W. BARTLEY

The cellulase of Fusarium solani. Resolution of the enzyme complex. T. M. WOOD

Radiochemical micro assays for the determination of choline acetyltransferase and acetylcholinesterase activities. F. FONNUM

Isolation of a third bovine neurophysin. R. RAUCH, M. D. HOLLENBERG & D. B. HOPE

The regulation of pea-seed phosphofructokinase by phosphoenolpyruvate. G. J. KELLY & J. F. TURNER

Androgen sulphate formation in male and female mice. D. A. LEWIS

Arginine metabolism in insects. Role of arginase in proline formation during silkmoth development. S. R. R. REDDY & J. W. CAMPBELL

A sodium ion concentration gradient formed during the absorption of glycine by mouse ascites-tumour cells. A. A. Eddy An automatic apparatus for the study of enzyme kinetics, J. A. ILLINGWORTH & K. F. TIPTON

The effects of substrates on the optical rotatory dispersion of carnitine acetyltransferase. K. F. TIPTON & J. F. A. CHASE

Two fractions required for cell-free protein synthesis with components from rabbit reticulocytes. B. B. COHEN

The relationship between nitrogen fixation and the production of HD from D<sub>2</sub> by cell-free extracts of soya-bean nodule bacteroids. G. L. TURNER & F. J. BERGERSEN

Effects of insulin on the pattern of glucose metabolism in the perfused working and Lagendorff heart of normal and insulindeficient rats. E. B. Chain, K. R. L. Mansford & L. H. Opie

The effects of unsaturated fatty acids on hepatic microsomal drug metabolism and cytochrome P-450. R. P. DI AUGUSTINE & J. R. FOUTS

Cholesterol esterification in rabbit plasma. V. STEFANOVICH

Quantitative determination of deoxyribonucleic acid in rat brain. N. W. PENN & R. SUWALSKI

The enzymic hydroxylation of protocollagen models. Y. KIKUCHI, D. FUJIMOTO & N. TAMIYA

Properties of the inactive ribosomal components in rat liver and hepatoma. T. E. Webb & H. P. Morris

Studies on the metabolism of steroids in the foetus. Biosynthesis of 6α-hydroxytestosterone in the human foetal liver, B. P. LISBOA & J. A. GUSTAFSSON

Acetoacetylation of insulin. D. G. LINDSAY & S. SHALL

The regulation of L-asparaginase activity in rats and mice. Effects of normal and malignant growth, of sex and of dietary changes. E. Bonetti, A. Abbondanza, E. Della Corte & F. Stirpe

Short Communications

Proceedings of the Biochemical Society

Subscription price per volume £8 net; \$19.20 in U.S.A.

Orders may be placed with a bookseller, or sent direct to Biochemical Society (Publications);

7 Warwick Court, London W.C.1