

Hormone Research

International Journal of Experimental and Clinical Endocrinology

8 Med. G2 443 / 13

Editor:

J. Girard, Basel

Editorial Board:

C.G.D. Brook, London

H.G. Burger, Melbourne

D.P. Cameron, Woolloongabba

K.J. Catt, Bethesda, Md.

G. Chiumello, Milan

H.J. Degenhart, Rotterdam

A.L. Drash, Pittsburgh, Pa.

J.R. Ducharme, Montreal

M.G. Forest, Lyon

P. Franchimont, Liège

D. Gupta, Tübingen

S.L. Jeffcoate, London

R.P. Kelch, Ann Arbor, Mich.

P.J. Keller, Zurich

Z. Laron, Petah Tiqva

L. Lazarus, Sydney

F. Leidenberger, Hamburg

C.J. Migeon, Baltimore, Md.

E. Milgrom, Bicêtre

S. Raiti, Baltimore, Md.

P.C. Sizonenko, Geneva

M. Sperling, Cincinnati, Ohio

A. Vermeulen, Ghent

M. Zachmann, Zurich



Contents Vol. 13, 1980

Universitäts-
Bibliothek
München

No. 1

Heinz Karger Memorial Foundation

Competition

- The Thyroid-Stimulating Antibody of Graves' Disease: Evidence for Restricted Heterogeneity
Zakarija, M. 1

Original Papers

- Antibodies against Testosterone: Valuable Tools for the Investigation of the Hypothalamo-Pituitary-Gonadal System in the Rabbit Fetus
Bidlingmaier, F.; Knorr, D., and Neumann, F. 16
- Morphologic and Metabolic Characteristics of Ventral, Lateral, Dorsal and Anterior Prostate Transplants in Rats. Effect of Testosterone and/or Prolactin
Edwards, W.D. and Thomas, J.A. 28
- Episodic Corticosterone Secretion in the Female Rat
Carrillo, A.J.; Duke, P.G., and Dunn, J.D. 40
- Comparison of Time-Dependent and Dose-Dependent Inhibitory Activity of T₃ and T₄ on TSH Release after TRH Injection in Rats
Brozmanová, H.; Langer, P.; Földes, O., and Gschwendtová, K. 48
- Demonstration of Luteinizing Hormone/Human Chorionic Gonadotrophin Receptor-Binding Inhibitor in Aqueous Extracts of Frozen Human Corpus Luteum
Kumari, G.L.; Vohra, S.; Joshi, L., and Roy, S. 57
- Announcements 68

No. 2

Original Papers

- Autoantibodies with Intrinsic Biological Activity
Knight, A. and Adams, D.D. 69
- Treatment of Cushing's Disease with Bilateral Adrenalectomy and Autotransplantation
Urban, M.D.; Lee, P.A.; Danish, R.K., and Migeon, C.J. 81
- Endocrine Effect of a Methionine-Enkephalin Derivative (FK 33-824) in Man
Poza, E. del; Graffenried, B. von; Brownell, J.; Derrer, F., and Marbach, P. 90
- Control of Aldosterone in 17 α -Hydroxylase Deficiency
Saruta, T.; Kondo, K.; Saito, I.; Nagahama, S.; Suzuki, H.; Konishi, K., and Matsuki, S. 98
- Acute Effects of Arginine Vasotocin on Plasma and Pituitary Levels of Prolactin in the Male Rat: Influence of Urethane Anesthesia
Johnson, L.Y.; Vaughan, M.K.; Reiter, R.J.; Petterborg, L.J., and Chen, H. 109
- Binding Sites for Melatonin in Bovine Pineal Gland
Vacas, M.I. and Cardinali, D.P. 121
- Book Review 132

No. 3

Original Papers

Simultaneous Radioimmunoassay of Androstenedione, Dehydroepiandrosterone and 11-Beta-Hydroxy-androstenedione in Plasma
 Fiet, J.; Gourmel, B.; Vilette, J.M.; Brerault, J.L.; Julien, R.; Cathelineau, G., and Dreux, C. 133

Short-Term Response of Testosterone, Dihydrotestosterone, 5 α -Androstane-3 β , 17 β -diol, Testosterone-Glucosiduronate and Estradiol-17 β as Measured in the Spermatic Vein of Human Male Subjects after Infusion of Gonadotropins
 Tamm, J.; Bücheler, E.; Volkwein, U., and Mischke, W. 150

Effect of Glucose on Growth Hormone, Prolactin and Thyroid-Stimulating Hormone Response to Diazepam in Normal Subjects
 Ajlouni, K. and El-Khateeb, M. 160

Influence of Hormones on Testicular Lipids of Adult Rats
 Sheriff, D.S. 165

Pheochromocytoma: an Animal Model
 Burroughs, V.; Goldstein, M., and Shenkman, L. 174

Oestrone Sulphatase Activity of the Rat Uterus in Different Hormonal States
 Utaaker, E. and Støa, K.F. 180

Perinatal Activity of the Hypothalamic-Pituitary-Gonadal Axis in the Lamb. II. In vitro Testicular Response to Human Chorionic Gonadotropin and Cholera toxin in the First 2 Months of Life
 Savoie, S.; Forest, M.G.; Bourel, B.; Haour, F.; Saez, J.M.; Collu, R.; Bertrand, J., and Ducharme, J.R. 186

Book Review 196

No. 4-5

Lipo-Corticotropic Hormones and Cushing's Disease

Symposium Held in Paris, May 30-31, 1980 197

No. 6

To Our Referees 345

Original Papers

Plasma Progesterone, 17-Hydroxyprogesterone, Androstenedione and Testosterone in Prepubertal, Pubertal and Adult Subjects with Congenital Virilizing Adrenal Hyperplasia as Indicators of Adrenal Suppression
 Lee, P.A.; Urban, M.D.; Gutai, J.P., and Migeon, C.J. 347

Effect of LH-RH Treatment on Hypothalamo-Pituitary-Gonadal Axis and Leydig Cell Ultrastructure in Cryptorchid Boys
 Hadziselimovic, F.; Girard, J.; Höcht, B.; Ohe, M. von der, and Stalder, G. 358

Radioimmunoassays of Unextracted Gonadotrophin Excretion, a Circadian Pattern in Relation to Puberty Bourguignon, J.P.; Vanderschueren-Lodeweyckx, M.; Reuter, A.M.; Vrindts-Gevaert, Y.; Gerard, A., and Franchimont, P.	367
Circadian Periodicity of Plasma Corticosterone Levels in Rats Subjected to Hemorrhagic Shock and Surgical Trauma Levine, R.L.; McIntosh, T.K.; Lothrop, D.A., and Jackson, B.T.	385
Role of Ovarian Hormones in the Long-Term Control of Glucose Homeostasis. Interaction with Insulin, Glucagon and Epinephrine Ahmed-Sorour, H. and Bailey, C.J.	396
Announcement	404
Author Index	405
Subject Index	407

Drug Dosage

The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of informa-

tion relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.

S. Karger AG,
P.O. Box, CH-4009 Basel (Switzerland)
Printed in Switzerland by Thür AG Offsetdruck,
Pratteln

All rights reserved.

No part of this publication may be translated into other languages, reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, microcopying, or by any information storage and retrieval system, without permission in writing from the publisher.

ACTH-Producing Pituitary Adenomas in Cushing's Disease

O.A. Müller, R. Fahlbusch, P. Stass and P.C. Scriba

Medizinische Klinik Innenstadt and Neurochirurgische Klinik, University of Munich, München

In the last 8 years we observed 30 patients with ACTH-dependent Cushing's disease (CD), who were operated upon the pituitary, and 16 patients with Nelson's syndrome (NS).

CD. (a) In 28 patients with normal or slightly enlarged sella, transsphenoidal exploration of the pituitary was performed. Circumscribed microadenomas could be removed selectively in 26 patients, whereas in 2 patients no adenoma could be detected. Up to now, 19 patients showed clinical and hormonal remission without necessity of long-term hormonal replacement therapy. In the majority of these cases a transitory adrenal insufficiency was documented. In 3 patients with histologically documented microadenomectomy without remission and in the 2 patients without detected microadenoma, a primary hypothalamic origin of CD can be discussed. Preoperative ACTH levels ($n = 15$) are helpful for the prognosis of operative therapy of pituitary ACTH excess. (b) In 2 patients with larger invasively growing adenomas a radical hypophysectomy and irradiation were performed. 1 patient died because of tumor invasion into the hypothalamus, the other patient is in remission since 3 years.

NS. In 11 of 16 patients with hyperpigmentation, sella enlargement and high ACTH levels after bilateral adrenalectomy, a pituitary operation became necessary. In contrast to the high normalization rate in patients with CD, ACTH levels were normalized in only 3 of the 11 patients with NS, in whom radical hypophysectomy and combined cryo- and radiotherapy were performed.

Conclusions: in the majority of cases with CD, a primary pituitary defect has to be assumed. Therefore sella exploration is the method of choice as the first therapeutical step. It can be assumed, that this therapeutical management of patients with CD may prevent NS in the future.