

Advance Abstracts  
of  
Short Papers

23. Symposium  
Deutsche Gesellschaft für Endokrinologie  
Ulm, February 22–25, 1978

acta  
endocrino  
logica

Supplementum 215

## ADVANCE ABSTRACTS OF SHORT PAPERS

Programme Committee

*E. F. Pfeiffer*, Chairman

*G. Bettendorf*

*M. Breckwoldt*

*P. W. Jungblut*

*D. Knorr*

*R. Knuppen*

*H. Minne*

*A. von zur Mühlen*

*K. Schröder*

*W. Wuttke*

*R. Ziegler*

with the assistance of Mrs. *J. Kemmer*  
and Miss *E. Ryssel*

**Bayerische  
Staatsbibliothek  
München**

ISBN 87-7494-162-3  
ISSN 0300-9750

Printed in Germany by Brühlsche Universitätsdruckerei, Lahn-Giessen

Executive Board 1977/78

President : *E. F. Pfeiffer*, Ulm

1st Vice-President : *P. W. Jungblut*, Wilhelmshaven

2nd Vice-President : *G. Bettendorf*, Hamburg

Secretary : *A. von zur Mühlen*, Hannover

Board members at large : *D. Knorr*, München  
*R. Knuppen*, Lübeck  
*W. Wutke*, Göttingen

Mailing address of the Society : D-3000 Hannover 61  
Karl-Wiechert-Allee 9  
c/o Prof. Dr. *A. von zur Mühlen*  
Medizinische Hochschule Hannover  
Dept. Innere Medizin  
Abt. Klinische Endokrinologie

ABSTRACTS OF SHORT PAPERS  
 (\* denotes poster presentation)

	Page
<i>Pituitary, Prolactin, STH</i>	
1. K. v. Werder, M. Gottsmann, C. Brendel, R. Landgraf, H. v. Lieven, H. K. Rjosk, R. Fahlbusch: Treatment of prolactinomas: Efficacy of radiotherapy . . . . .	1
2. H. K. Rjosk, H. Huber: Pregnancies in patients with prolactinomas . . . . .	2
3. W. Winkelmann, U. Fricke, W. Hadam, D. Heesen, R. Mies, E. Rausch: Influence of sulphiride on plasma prolactin in patients with pituitary tumors *) . . . . .	3
4. O. A. Müller, R. Fink, K. v. Werder, P. C. Scriba: Hypersecretion of ACTH, growth hormone and prolactin in a patient with pituitary adenoma . . . . .	4
5. K.-D. Döhler, C. C. Wong, A. von zur Mühlen: Comparative effects of gonadal hormones on prolactin release in male and female rats *) . . . . .	5
6. H. G. Bohnet, E. del Pozo, F. Gómez: Control of mammary prolactin receptors in the female rat *) . . . . .	7
7. H. J. Quabbe, M. Gregor, C. Bumke-Vogt, A. Eckhof, P. Bohlscheid, M. Schoppenhorst: 24-th pattern of growth hormone, prolactin and cortisol in the Rhesus monkey . . . . .	8
8. G. Mayer, G. Schwinn: Exercise-induced growth hormone release: Suppression by TRH and augmentation by bromocriptine . . . . .	10
9. G. Schwinn, B. Heckrodt, J. Köbberling: The effect of pimozide, TRH and cyproheptadine on sleep-induced growth hormone secretion in man . . . . .	11
10. L. Nocke-Finck, H. H. v. Burgsdorff, H. Wassmann, H. Breuer: Growth hormone and cortisol in the plasma of patients with traumatic apallic syndrome *) . . . . .	12
11. J. Köbberling, C. McIntosh, C. Blossey: Binding capacity and affinity of membrane-bound hGH receptors from rabbit liver: Studies of age dependence, influence of hGH pretreatment and receptor stability . . . . .	13
12. G. Bastert, K. H. Usadel, P. H. Althoff: Function of human fetal pituitary transplants in nude mice . . . . .	13
<i>ACTH, Adrenal Cortex</i>	
13. G. Kummer, K. E. Beinert, R. Lang: Positive rate-sensitive steroid feedback mechanism of ACTH secretion in Cushing's disease . . . . .	15
14. H. L. Fehm, G. Kummer: Rate-sensitive feedback effects of glucocorticoids on ACTH hypersecretion in hypoadrenocorticism . . . . .	16
15. K. H. Voigt, E. Weber, D. Breitig, R. Martin: ACTH secretion of isolated pars intermedia cells from rat pituitaries *) . . . . .	17
16. R. Peters, M. Schleyer: Structure-activity relationship of corticosteroids on the inhibition of ACTH release from isolated pituitary cells . . . . .	18
17. H. Kling, R. Martin: Maintenance in monolayer culture of corticotropic cells separated by velocity sedimentation *) . . . . .	19
18. E. Weber, K. H. Voigt: Ultrastructural characterization of ACTH producing cells of the rat anterior pituitary by electron microscopic immunocytochemistry *) . . . . .	20
19. B. Schefzig, M. Schöneshöfer: Short-term kinetics of serum concentrations of eight adrenal steroids and plasma ACTH after a single dose of metyrapone . . . . .	21
20. R. Fuchs-Hammoser, M. Schweiger, W. Oelkers: Chronic low-dose ACTH stimulation of adrenocortical steroid secretion in man . . . . .	22

	Page
21. <i>O. A. Müller, R. Fahlbusch</i> : Differential therapy in patients with Cushing's disease . . .	23
22. <i>M. B. Oziol, C. Meissner, Ch. Herfarth</i> : Corticosteroid production of isolated cells from human adrenocortical tumors . . .	24
23. <i>C. Bernutz, K. Horn, C. R. Pickardt</i> : Characterization of corticosteroid-binding globulin (CBG) and radioimmunological determination in human serum . . .	25
24. <i>J. Homoki, W. M. Teller</i> : Particularities of urinary steroid excretion in neonates and infants with C <sub>21</sub> -hydroxylase deficiency *) . . .	26
25. <i>R. Müller, A. Scheuer, H. Gerdes, K.-O. Mosebach</i> : New antigens with steroids as the immunodeterminant group: Coupling of 5 $\alpha$ -dihydrotestosterone to bovine serum albumin by reductive amination *) . . .	28
26. <i>Ch. Witting, E. J. Wickings, E. Nieschlag</i> : Immune complex nephritis following active immunisation with steroid-protein conjugates *) . . .	29
27. <i>R. Krüger, Ch. Hohbach, C. Meissner, G. Dhom</i> : Morphology and function of the transplantable adrenocortical carcinoma Snell 494 and the adrenal cortex of tumor-bearing rats *) . . .	30
28. <i>J. Vesper, P. Geywitz, H. Thomas</i> : Fluorometric localization of catechol-O-methyltransferase after electrophoresis in polyacrylamide gel *) . . .	31

#### *Androgens, Estrogens, Pregnancy*

29. <i>A. Hecker, S. H. Hasan, F. Neumann</i> : Effect of spironolactone on the sexual differentiation of rat fetuses . . .	32
30. <i>J. R. Strecker, W. D. Lehmann, A. S. Wolf, K. Musch</i> : Suppression of the maternal and fetal pituitary-adrenocortical axis by administration of beta-methasone during pregnancy . . .	33
31. <i>W. G. Sippell, P. Gaede, O. Fleischmann, F. Bidlingmaier, D. Knorr, D. Troelle</i> : Plasma concentrations of eight unconjugated steroids in mother and fetoplacental unit at term delivery *) . . .	34
32. <i>G. Reck, U. Noss, M. Breckwoldt</i> : Circadian rhythm of free estradiol in relation to adrenal function during late pregnancy *) . . .	35
33. <i>W. D. Lehmann, Ch. Lauritzen</i> : Clinical and biochemical studies in three pregnancies with placental sulfatase deficiency . . .	36
34. <i>K. M. Pirke, M. Geiss, H. J. Vogt</i> : In vitro and in vivo studies on Leydig cell function in old rats . . .	37
35. <i>B. Schenck, F. Neumann</i> : Dissociation between different actions of androgens . . .	38
36. <i>R. Ghraf, H.-J. Deutsch, E. R. Lax, H. Schriefers</i> : Androgen-induced "superinduction" of estrogen-dependent 3 $\alpha$ -hydroxysteroid dehydrogenase activity in rat kidney cytosol . . .	39
37. <i>W. Elger, K. Petzoldt</i> : Two chance observations: Inhibition of fertilization after uterine insemination and destruction of the uterine surface and glandular epithelium by treatment with 18-acetoxy-D-norgestrel in rabbits *) . . .	40
38. <i>E. R. Lax, E. Kreuzfelder, R. Ghraf, H. Schriefers</i> : The influence of estradiol and antiestrogens on hepatic microsomal 3 $\beta$ -hydroxysteroid dehydrogenase activity in rats . . .	41
39. <i>M. Schwenk, V. López del Pino, H. M. Bolt</i> : Metabolism and disposition of 17 $\alpha$ -ethinylestradiol and estrone sulfate in isolated rat liver cells *) . . .	42
40. <i>H. Bojar, W. Staib</i> : Estrogen receptors in rat liver: molecular characteristics, sex differences, changes during estrous cycle, translocation by isolated hepatocytes *) . . .	43
41. <i>J. Sandow, W. v. Rechenberg, B. Schölkens, U. Weithmann</i> : Luteolytic activity of a synthetic prostaglandin . . .	45
42. <i>S. Chari, E. Daume, C. Sturm, C. R. N. Hopkinson</i> : Inhibin-like activity in human follicular fluid and its characterization *) . . .	46
43. <i>W. Saeger, H. Mitschke</i> : Morphology of adrenal and ovarian tumors with androgen excess *) . . .	47

*Hormone-Dependent Osteopathies*

44. *W. Schulz, P. Spiegel, G. Dellling*: Effect of 1,25 (OH)<sub>2</sub>D<sub>3</sub> on secondary hyperparathyroidism in renal bone disease . . . . . 48
45. *E. Leicht, G. Biro, H. Baumhöfener, Chr. Blum*: Medium-term effects of low doses of 1,25-dihydroxy-vitamin D in patients with renal osteopathy . . . . . 49
46. *R. Hehrmann, A. J. Coburg, P. Neuhaus, G. Tidow, J. Thiele*: Renal hyperparathyroidism: Effect of parathyroidectomy with autotransplantation and of kidney transplantation on serum PTH . . . . . 50
47. *E. Manzke, D. J. Baylink, G. P. Vose*: Bone density, nondialyzable urinary hydroxyproline, serum 25-hydroxy-vitamin D and serum parathyroid hormone during fluoride therapy . . . . . 51
48. *H. U. Schweikert, W. Rulf, N. Niederle, H. E. Schaefer*: Dihydrotestosterone formation in normal and osteoporotic human bone . . . . . 52
49. *J. Bommer, B. Krempien, E. Ritz, R. Schneider*: The influence of thyroxine on endosteal cell surface morphology . . . . . 53
50. *L. Gozariu, E. Barabas*: Effect of parathormone and calcitonin on calcium uptake in tooth germs \*) . . . . . 53
51. *R. Ziegler, G. Holz, W. Streibl, F. Raue*: Nasal application of calcitonin in Paget's disease of bone . . . . . 54
52. *K. H. Usadel, U. Schwedes, H. Minne, I. Klempa, J. Vlachyannis, H. P. Fortmeyer, K. Schöffling*: Transplantation of human parathyroid adenoma and carcinoma in nude mice . . . . . 55

*Gastrointestinal Hormones*

53. *Ph. U. Heitz, J. M. Polak, G. Klöppel, S. R. Bloom, A. G. E. Pearse*: Multiple hormone producing pancreatic endocrine tumors . . . . . 56
54. *G. Klöppel, G. Dellling, A. Knipper, Ph. U. Heitz*: Immunocytochemical mapping of pancreatic Apudomas in multiple endocrine adenomatosis with primary hyperparathyroidism . . . . . 57
55. *H. W. Börger, A. Schafmayer, N. J. Smith, M. Werner, H. D. Becker*: The influence of selective proximal vagotomy on serum gastrin, serum GIP and serum insulin in duodenal ulcer patients . . . . . 58
56. *H. Laube, R. Ebert, S. Raptis, W. Schlegel, K. Federlin*: GIP, secretin, gastrin and pancreozymin in the mucosa of sucrose fed rats . . . . . 59
57. *B. Simon, P. Czygan, H. Kather, B. Kommerell*: Stimulation of human colonic adenylate cyclase by prostaglandins and vasoactive intestinal polypeptide . . . . . 60

*Endocrine Pancreas, Somatostatin*

58. *W. Beischer, W. Kerner, L. Keller, B. Beischer*: Diabetes therapy and control in relation to C-peptide levels . . . . . 61
59. *W. Kerner, E. F. Pfeiffer, Ch. Herfarth*: Application of an artificial endocrine pancreas in surgery \*) . . . . . 63
60. *S. Raptis, Ch. Zoupas, V. Maier, W. Beischer, J. Rosenthal*: Effect of a somatostatin analog on glucoregulatory hormones in man . . . . . 64
61. *U. Schwedes, P. Althoff, S. Szabo, K. Schöffling*: Effect of somatostatin on gastrin and gastric acid output in rats with cysteamine-induced duodenal ulcer \*) . . . . . 65
62. *F. Diel, E. Schneider*: Somatostatin binding complexes \*) . . . . . 66
63. *R. Landgraf, A. Witte, M. M. C. Landgraf-Leurs*: Kinetics of insulin release from perfused islets due to growth hormone, lipotropin and adiuretin . . . . . 67
64. *K. Rückert, F. Kümmerle*: The present situation of surgery of the endocrine pancreas in West Germany . . . . . 68

65. R. G. Bretzel, E. Manns, C. Schomber, K. Federlin: The liver as a site for implantation of islets of Langerhans in experimental diabetes. Morphologic and metabolic observations \*) . . . . . 69
66. V. Maier, G. Witznick, R. Keller, E. F. Pfeiffer: Insulin-like and glucagon-like immunoreactivities in the honeybee (*Apis mellifera* \*) . . . . . 69

### Thyroid Gland

67. P. Stubbe, P. Heidemann: The incidence of goitrous hypothyroidism during neonatal screening . . . . . 70
68. J. Homoki, U. Loos, G. Rothenbuchner, V. Grimm, W. M. Teller: TSH,  $T_4$ ,  $T_3$  and reverse  $T_3$  serum concentrations in the premature infant during the first month of live . . . . . 71
69. M. Grussendorf, M. Hüfner:  $3,3'$ - $T_2$  serum levels during the first days of life and in adults after ingestion of high doses of  $rT_3$ ,  $T_3$  and  $T_4$  \*) . . . . . 72
70. M. Lammers, A. von zur Mühlen, U. Döhler: Prenatal thyroxine treatment causes permanent impairment of hypothalamo-pituitary-thyroid function in rats . . . . . 73
71. R. Ködding, B. Höffken: Thyroxine and its metabolites during treatment with propylthiouracil and mercaptoimidazol . . . . . 74
72. W. Waldhäusl, P. Bratusch-Marrain, P. Novotny, A. Lujf, H. Schuster: Secondary hyperthyroidism associated with pituitary chromophobe adenoma. Study of TSH chemistry and release . . . . . 75
73. E. Jentsch, P. Stubbe, M. Droese, P. Heidemann: The incidence of Hashimoto's thyroiditis in childhood . . . . . 76
74. W. Scherbaum, K. O. Rosenau, F. J. Seif: Rheumatoid factors and thyroid antibodies in Graves'-Basedow disease . . . . . 77
75. H. Ludwig, G. Schernthaner, E. Richter, N. Zambelis, G. Wick: Thyroglobulin binding cells, a diagnostic marker for Hashimoto's thyroiditis \*) . . . . . 78
76. G. Schernthaner, H. Schleusener, R. Finke, P. Kotulla, H. Ludwig, W. R. Mayr: Thyroid stimulating immunoglobulins in HLA-typed patients with ophthalmic Graves' disease, thyrotoxicosis and Hashimoto's thyroiditis \*) . . . . . 79
77. F. J. Seif, W. Scherbaum, W. Klingler: Syndrome of elevated thyroid hormone and TSH blood levels. A case report . . . . . 81
78. U. Loos, F. Konrad, G. Rothenbuchner:  $T_3$ -hyperthyroidism under the aspects of thyroidal hormone secretion and peripheral formation . . . . . 82
79. C. C. Wong, K.-D. Döhler: Effects of light-dark changes on serum levels of prolactin, TSH,  $T_3$  and  $T_4$  in male rats of different ages \*) . . . . . 83
80. B. Höffken, R. Ködding, J. Köhrle, R.-D. Hesch: Characteristics of 5- and 5'-deiodination of  $T_4$  \*) . . . . . 85
81. D. Auf dem Brinke, J. Köhrle: Reexamination of the subcellular localization of  $T_4$  to  $T_3$  converting enzyme ( $T_4$  to  $T_3$  deiodase = E) in rat liver . . . . . 86
82. M. Hüfner, M. Grussendorf: Studies on reverse  $T_3$  degradation in rat liver homogenate \*) . . . . . 87

### Gonadotropins, Gonadal Function

83. V. Lichtenberg, D. Graesslin, V. G. Pahnke: Quantitation of human serum LH by RIA and an in vitro bioassay (TPA) after gel chromatography: overestimation by RIA . . . . . 88
84. W. Krause, W. Schaeg: The use of staphylococcal protein A for precipitating the antigen-antibody complex in the hFSH and hLH radioimmunoassay \*) . . . . . 90
85. R. Baumann, H. Kuhl: LH-RH interactions with purified plasma membranes of rat anterior pituitary gland \*) . . . . . 91
86. T. O. F. Wagner: Binding kinetics for the interaction of mono-iodo-GnRH and ovine anterior pituitary \*) . . . . . 92
87. W. Krause, S. Peters: On the correlation of serum levels of FSH, LH and prolactin . . . . . 92



88. <i>W. Beck, J. L. Hancke, W. Wuttke</i> : Annual rhythm of plasma LH, FSH, prolactin and testosterone in male Rhesus monkeys . . . . .	93
89. <i>W. D. Hetzel, H. D. Laepple</i> : The effect of combined administration of sulpiride and bromocriptine on the hypophysial-gonadal feedback mechanism in healthy males . . . . .	94
90. <i>K.-J. Gräf, M. Schmidt-Gollwitzer, U. J. Koch, F. Lorenz, J. Hammerstein</i> : Hyperprolactinemia induced by cyproterone acetate in human subjects . . . . .	96
91. <i>L. Weißbach, G. Leyendecker, Ch. Stangenberg, H. U. Schweikert</i> : Partial insensitivity of hypothalamic-pituitary centers to sexual steroids in the Reifenstein syndrome . . . . .	97
92. <i>R. Horowski, K.-J. Gräf, B. Nieuweboer, H. Wendt, P. G. Chiodini, A. Liuzzi</i> : Influence of depot progestagens on anterior pituitary and adrenocortical hormones . . . . .	98
93. <i>N. Parvizi, F. Ellendorff</i> : Differentiated effect of norepinephrine on LH secretion after intracerebral microinjections . . . . .	99
94. <i>V. G. Pahnke, A. Brandt, F. Leidenberger</i> : Gonadal function of male and female rats in experimentally induced hypo- and hyperthyroidism . . . . .	99
95. <i>D. Schams, B. Hoffmann, K. H. Lotthammer, L. Ahlswede</i> : Specific effects of vitamin-A-unrelated $\beta$ -carotin deficiency on fertility parameters in cattle . . . . .	101
96. <i>U. Gethmann, P. Ball, R. Knuppen</i> : Effect of 2-hydroxyestrone on gonadotropin secretion in the ovariectomized rat *) . . . . .	102
97. <i>K. G. Höhn, P. Witte, W. Wuttke</i> : Regional changes in catecholamine (CA) turnover and CA-synthetizing enzymes in response to ovariectomy and estradiol *) . . . . .	103
98. <i>N. M. Qureshi, I. Yousuf, S. Naqvi, M. A. Qureshi</i> : Testis specific LDH-X. Studies in a reptilian species and in the rat following FSH, LH, testosterone and estrogen administration *) . . . . .	104

### Parathormone

99. <i>H. Jüppner, J. Sraer, R. Ardaillou, H. Ebel, M. Ruf, H. Mohr</i> : PTH receptors at different sites along the nephron . . . . .	105
100. <i>A. A. Bialasiewicz, V. Diehl, H. Jüppner</i> : Binding kinetics of PTH to cultured B- and T-lymphocytes *) . . . . .	106
101. <i>H. Mohr, R.-D. Hesch</i> : Parathormone degrading activity in basal lateral membranes of the bovine renal cortex . . . . .	107
102. <i>M. Dietel, G. Dorn, E. Altenähr</i> : Effect of high and physiological concentrations of 1,25 DHCC on ultrastructure and secretion of human parathyroid adenomas and porcine parathyroids . . . . .	109
103. <i>M. A. Dambacher, W. Hunziker, W. Born, J. Moran, J. A. Fischer</i> : Circulating forms of immunoreactive parathyroid hormone (PTH) in control subjects and in patients with primary and secondary hyperparathyroidism . . . . .	110
104. <i>H. von Lilienfeld-Toal, A. Edis, C. D. Arnaud</i> : Metabolism of endogenous parathyroid hormone (PTH) in hyperparathyroid patients . . . . .	111
105. <i>J. P. Nordmeyer, R. Hehrmann, G. Tidow</i> : Primary hyperparathyroidism: increasing experience with clinically extraordinary cases . . . . .	112
106. <i>G. Biro, E. Leicht</i> : Radioimmunological estimation of human parathyroid hormone: comparison of separation techniques *) . . . . .	112
107. <i>W. G. Wood, I. Marschner</i> : Comparison of different labelling and separation techniques in the production of a stable 125I bovine parathyrin tracer *) . . . . .	113
108. <i>W. G. Wood, G. Kuflicki, I. Marschner, P. C. Scriba</i> : Rapid sensitive and reproducible assays for human parathyrin *) . . . . .	116
109. <i>W. Engelhardt, P. O. Schwille</i> : Modifications of the Hunter radioiodination of highly purified bovine PTH (bPTH) *) . . . . .	117
110. <i>F. Raue, R. Ziegler, F. Nobbe, A. Schäfer</i> : Medullary thyroid carcinoma. Localisation of metastases by selective venous catheterisation *) . . . . .	118
111. <i>J. McK. Halket, B. P. Lisboa</i> : An approach to the recognition and quantitation of vitamin D and its metabolites using gas chromatography-mass spectrometry *) . . . . .	120

*Neurosecretion*

112. *A. Weindl, M. V. Sofroniev, R. Wetzstein*: Immunohistochemical demonstration of secretory neurons in the brain of the North American opossum (*Didelphys virginiana*) and the mole (*Talpa europea*) . . . . . 121
113. *I. Felsl, M. Gottsmann, T. Eversmann, W. Jehle, E. Uhlich*: Influence of various stress situations on vasopressin secretion in man . . . . . 122
114. *R. Lorenz, E. Uhlich*: Vasopressin release from perfused isolated rat hypothalamus-hypophysis preparations . . . . . 123
115. *F. Ellendorff, M. L. Forsling, N. Parvizi, N. Taverner, D. Smidt*: Prostaglandin-induced oxytocin secretion in the pig . . . . . 125
116. *T. Heinzeller, H. Vogel*: An estimation of the release of neurosecretory material by the corpora cardiaca in the honeybee \*) . . . . . 125

*Paraneoplastic Hormone Production*

117. *C. J. M. Lips, J. A. van der Donk, R. H. van Dam, W. H. L. Hackeng, J. van der Sluys Veer*: A common precursor molecule as origin of the ectopic hormone-producing tumor syndrome . . . . . 127
118. *J. A. van der Donk, C. J. M. Lips, R. H. van Dam, W. H. L. Hackeng, J. van der Sluys Veer*: A new method to synthesize human peptide hormone precursors \*) . . . . . 128
119. *H. Minne, W. Streibl, S. Stanislaus, C. D. Arnaud*: Paraneoplastic parathyroid hormone (PTH) secretion by the transplantable Walker carcinosarcoma 256 of the rat . . . . . 129
120. *K. Mann, R. Lamerz, G. Staehler, H. J. Karl*: Tumor markers HCG- $\beta$  and AFP in patients with testicular seminoma and teratocarcinoma . . . . . 130
121. *H. K. Kley, W. Berges, H. L. Kruskemper*: Diagnosis of bronchial carcinoma with ectopic ACTH production . . . . . 130

*Kidney, Varia*

122. *B. A. Schölkens*: Intranasal administration of an angiotensin II antagonist . . . . . 131
123. *M. Schöneshöfer, G. Schultze, W. Oelkers*: Effects of prolonged infusion of angiotensin II on eight serum corticosteroids in man . . . . . 132
124. *H. J. Kramer, T. Moch, L. v. Sicherer*: Effects of inhibition of the kinin system on renal hemodynamics and salt and water excretion in acutely saline-loaded rats . . . . . 133
125. *K. Lichtwald, K.-H. Kohl, D. Haack, Th. Connolly, P. Vecsei, I. Vince*: Separation of TH-ALD like radioimmunoactive, less polar materials from human urine . . . . . 135

*Steroid Receptors, Carcinomas*

126. *P. W. Jungblut, E. Kallweit, W. Sierralta, A. J. Truitt, R. K. Wagner*: Estradiol and receptor content of uterine nuclei from ovariectomized and ovariectomized/adrenalectomized pigs . . . . . 136
127. *B. J. Jungblut*: Sequential extraction of various forms of estradiol receptor . . . . . 137
128. *R. K. Wagner, K. H. Schulze*: Clinical relevance of androgen receptor content in human prostate carcinoma . . . . . 139
129. *M. Krieg, I. Grobe, E. Altenähr, K. D. Voigt*: Differences in androgen binding and metabolism between human prostatic carcinoma and human benign prostatic hypertrophy . . . . . 140
130. *R.-Th. Michel, G. Bastert, H. P. Fortmeyer, D. Nord, H. Schmidt-Matthiesen*: Effect of ablative, additive and anti-estrogen (Tamoxifen) treatment on the tumor growth of transplanted human breast cancers in nude mice \*) . . . . . 141
131. *P. Unterburger, D. Engelhardt*: Metabolism of testosterone and 5 $\alpha$ -dihydrotestosterone in normal human endometrium and endometrial carcinoma \*) . . . . . 143

## 108. Rapid sensitive and reproducible assays for human parathyrin

W. G. WOOD, G. KUFLICKI, I. MARSCHNER, P. C. SCRIBA, *Medizinische Klinik Innenstadt der Universität München, Laboratorien für Klinische Chemie und Endokrinologie*

Assays for human parathyrin (hPTH) often have incubation times in terms of days (*Berson et al.*, 1963; *Hehrmann et al.*, 1976). The assays described here give reproducible and clinically useful results with a total assay time of 6 or 24 hrs.

*Materials and Methods:* Antibodies (Ab) to C-regional peptides of bovine and porcine parathyrin (C-bPTH, C-pPTH) were obtained from Dr. R. D. Hesch of Hannover and were coded S-469 VI and S-478 VI. Bovine parathyrin (bPTH) for standards and labelled was obtained from Inolex, Chicago, USA.  $^{125}\text{I}$ -labelled tracer was produced as described by *Wood and Marschner* (1978). The original assay was that described by *Hehrmann et al.* (1976) using

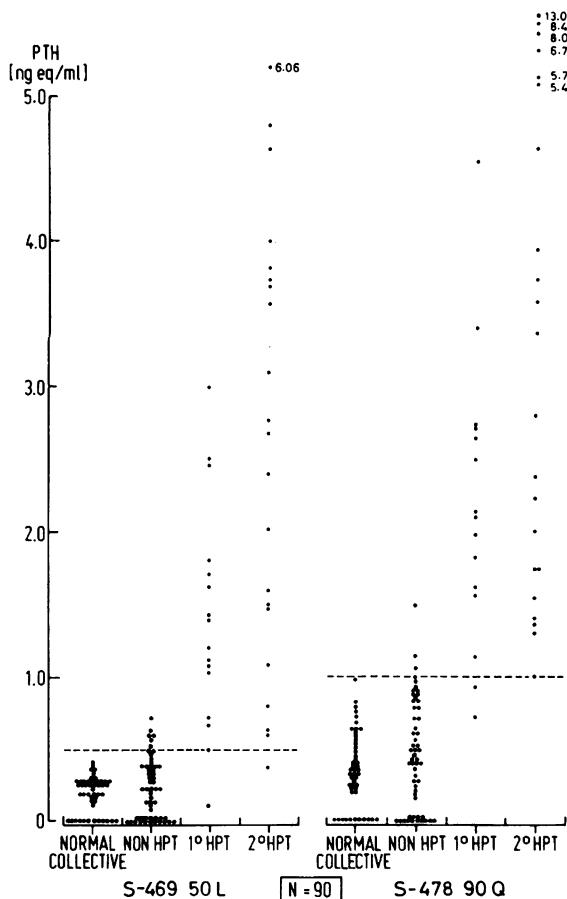


Fig. 1

Ab S-469 VI at an initial dilution (i.d.) of 1:10000. The first modification used more tracer (330 Bq per tube) and 12% polyethylene glycol (PEG) to separate bound and free hormone. The assay had a 96-hr preincubation followed by a 72-hr incubation with tracer, and was coded S-469 50L.

The second modification was to use an Ab i.d. of 1:7000 for Ab S-469 VI and 1:1200 for Ab S-478 VI, to increase the amount of tracer to 660 Bq/tube, to reduce the first incubation to 18 hrs and the second to 6 hrs. These assays were coded S-469 50Q and S-478 90Q. With Ab S-469 assays 50  $\mu$ l serum was used, and with S-478 assays, 90  $\mu$ l. Due to the different binding kinetics of both Ab for hPTH and bPTH, a rapid assay requiring only 6 hrs incubation with tracer was set up and coded S-478 90SQ. The assay adapted for routine use was the S-478 90Q and, in emergency, S-478 90SQ, which only functioned with a hPTH standard curve. The assay S-478 90Q was tested with MRC 75/549 and Montz (Hamburg) P2 and P4 tissue culture extracts.

*Results:* The sensitivity of the shorter assays was as good as or better than the S-469 50L assay. Figure 1 shows a comparison in 47 normals and 90 patients with and without hyperparathyraemia (HPT) measured in the S-469 50L and S-478 90Q assays. The upper limit of the normal range is shown by dotted lines. When compared with S-469 50L assay, the S-469 50Q assay gave results which were three times higher, although the correlation was good ( $r=0.975$ ,  $n=109$ ), and the S-478 90Q assay results on average 30% higher. The correlation here was  $r=0.873$  ( $n=180$ ). The Montz P2 and P4 "standards" gave identical dilution curves and the MRC 75/549 a similar curve to P2 and P4 but displaced to the right when compared with bPTH (on the y-axis).

*Conclusions:* The short assay S-478 90Q is as sensitive and reliable as the S-469 50L assay taking several days longer. The clinical value is as good for differentiating normal and HPT patients, and as the units are not absolute, the higher values obtained by this assay have caused no concern.

### *References*

- Berson, S.A., Yalow, R.S., Auerbach, G.D., Potts, J.T.: Proc. Nat. Acad. Sci. 49, 613 (1963)  
Hehrmann, R., Wilke, R., Nordmeyer, J.P., Hesch, R.D.: Dtsch. Med. Wschr. 101, 1726 (1976)  
Wide, L., Nillius, S.J., Gemzell, C., Roos, P.: Acta endocr. (Kbh.) 72, Suppl. 174, 73 (1973)  
Wood, W.G., Marschner, I.: Acta endocr. (Kbh.) Suppl. (this edition) (1978)