

*Excerpta*

# THIRD INTERNATIONAL CONGRESS ON HORMONAL STEROIDS

*Hamburg, Federal Republic of Germany  
7-12 September 1970*

ABSTRACTS OF PAPERS PRESENTED

*Editor*

V. H. T. JAMES

London, United Kingdom



EXCERPTA MEDICA FOUNDATION

*1970/1104*

# CONTENTS

## SYMPOSIUM LECTURES

	Page
Newer approaches to total synthesis (Abstr. 1-4)	1
Newer steroid reactions (Abstr. 5-9)	3
Newer physical methods (Abstr. 10-13)	5
Gas-liquid chromatography and gas-liquid chromatography-mass spectrometry	7
Chemistry and physiology of insect hormones (Abstr. 19-21)	10
Protein binding methods of steroid analysis (Abstr. 22-25)	12
Steroid biosynthesis (Abstr. 26-31)	14
Steroid metabolism (Abstr. 32-36)	17
Metabolites as active hormones at tissue level (Abstr. 37-40)	20
Binding of steroids by tissue fractions (Abstr. 41-45)	22
Steroid protein interaction (Enzymes and physical chemistry) (Abstr. 46-50)	24
Steroid hormones and gene action (Abstr. 51-55)	27
Steroid hormones and the synthesis of specific proteins (Abstr. 56-59)	29
Metabolic aspects of the physiological actions of steroid hormones (Abstr. 60-64)	31
Steroid metabolism in the foeto-placental unit (Abstr. 65-68)	34
Steroids in the perinatal period (Abstr. 69-73)	36
Steroid metabolism: clinical disorders (Abstr. 74-78)	39
Steroid hypertension (Abstr. 79-81)	42
Role of steroid hormones in the pathogenesis and treatment of breast cancer and of cancers of the reproductive organs (Abstr. 82-84)	44
Pharmacology and therapeutic uses of hormonal steroids (Abstr. 85-90)	46
Pharmacological alteration of adrenocortical function (Abstr. 91-93)	49
Regulation of luteal cell function (Abstr. 94-98)	51
Feedback actions of hormonal steroids (Abstr. 99-102)	53
Steroids and behaviour (Abstr. 103-108)	55
Steroid hormones in the brain (Abstr. 109-112)	58
Steroid hormones and brain amines (Abstr. 113-118)	60
Metabolism of contraceptive steroids in man (Abstr. 119-123)	63
Systemic effects of contraceptive steroids (Abstr. 124-128)	66
Steroid hormone antagonists (Abstr. 129-132)	69
Comparative aspects of steroids in vertebrates (Abstr. 133-137)	71

## COMMUNICATIONS

Steroid syntheses (Abstr. 138-148)	75
Steroids with additional carbon atoms and hetero atoms (Abstr. 149-158)	80
Specific reactions, stereochemical problems (Abstr. 159-166)	84
Synthesis of steroid derivatives (Abstr. 167-178)	87
Microbiological, enzymatic and chemical transformations (Abstr. 179-185)	92
Radiometric analytical methods (Abstr. 186-189)	95
Analytical methods: gas chromatography, thin layer chromatography (Abstr. 190-201)	97
Analytical methods – spectrophotometric, protein binding (Abstr. 202-210)	102
Biosynthesis of corticosteroids (Abstr. 211-231)	106
Biosynthesis of androgens (Abstr. 232-239)	116
Biosynthesis of oestrogens and gestagens (Abstr. 240-248)	120
Metabolism of corticosteroids (Abstr. 249-256)	124
Metabolism of oestrogens and gestagens (Abstr. 257-269)	128
Metabolism of androgens (Abstr. 270-289)	134
Steroid binding to plasma proteins; methods, oestradiol uptake by tumours (Abstr. 290-301)	143
Oestradiol, testosterone, and dihydrotestosterone binding proteins (Abstr. 302-312)	148
Progesterone and corticosteroid binding proteins (Abstr. 313-322)	153
Mechanism of action: cortisol, prednisolone, corticosterone, aldosterone (Abstr. 323-332)	157
Mechanism of action: androgens, oestrogens (Abstr. 333-343)	162

	Page
Mechanism of action: gestagens, stereoelectronic effects, cyclic AMP, enzymes, prolactin (Abstr. 344-352) . . . . .	167
Pharmacology of oestrogens, androgens and gestagens (Abstr. 353-362) . . . . .	171
Pharmacology of corticosteroids (Abstr. 363-374) . . . . .	175
Pharmacology: effects of ACTH, blocking agents, etc. (Abstr. 375-385) . . . . .	180
Steroids in foetal, maternal and perinatal endocrinology (Abstr. 386-408) . . . . .	185
Clinical aspects of steroid metabolism: testosterone (Abstr. 409-420) . . . . .	194
Clinical aspects of steroid metabolism: cortisol, ACTH (Abstr. 421-430) . . . . .	199
Clinical aspects of steroid metabolism: steroids and cancer, enzyme defects, etc. (Abstr. 431-438) . . . . .	203
Clinical aspects of steroid metabolism: miscellaneous (Abstr. 439-448) . . . . .	206
Steroids in reproductive biology (Abstr. 449-479) . . . . .	211
Steroids in neuroendocrine mechanism (Abstr. 480-490) . . . . .	224
Comparative aspects: androgens, oestrogens, gestagens, corticosteroids (Abstr. 491-510) . . . . .	229
Comparative aspects: steroids hydroxylations, gonadotrophins, ACTH, etc. (Abstr. 511-521) . . . . .	237

## ADDENDUM

Ecdysones and antiecdysones (Abstr. 522) . . . . .	242
INDEX OF AUTHORS . . . . .	243

**369. Quantitation in man of suppressive effects of fluocortolone and prednisolone by evaluation of diurnal rhythms of serum cortisol**

P. C. SCRIBA, N. BOSS, A. C. GERB, F. KLUGE and O. A. MÜLLER, II Medizinische Klinik, Universität München, Munich, Federal Republic of Germany

The fluorometric determination of serum cortisol, as described by Spencer-Peet *et al.*, was improved by the use of a recording spectrofluorometer and of an automated filling device designed to avoid bubble formation in a special cuvette. Sensitivity ( $<1 \mu\text{g}/100 \text{ ml}$ ), precision ( $10 \mu\text{g}/100 \text{ ml}$ ,  $N=20$ : mean  $\pm$  SD =  $10.09 \pm 0.5$ ), reproducibility from day to day (VK = 6%) and recovery  $\pm$  control serum of the method ( $r=0.99$ ) were assessed. The specificity is shown by the observation that serum cortisol was less than  $2 \mu\text{g}/100 \text{ ml}$  in adrenalectomized patients on  $0.25 \text{ mg}$  dexamethasone twice daily. The normal range of serum cortisol at 9.00 a.m. is 9.7 to  $32.0 \mu\text{g}$  per  $100 \text{ ml}$  ( $N=102$ , log distribution). Groups of patients ( $N=5$  to  $9$  each) received a single dose of fluocortolone ( $2.5, 5, 10, 20, 30$  or  $50 \text{ mg}$ ), resp. of prednisolone at 7.00 a.m. The suppressive action was analyzed by determination of the differences between the integral for the diurnal rhythm of serum cortisol of a control group ( $N=25$ ) and the serum cortisol integrals of patients treated with corticosteroids, each followed for 28 hr after corticosteroid administration. Thus, the differences of serum cortisol levels until the cross-over of the curves were taken as responses. Linear log dose response curves were obtained (index of precision:  $g=0.142$ ). This method of integral differences allows the comparison of the suppressive action of corticosteroids with different duration of action.