

acta
endocrino
logica

Supplementum 225

Advance Abstracts
of
Papers

XIIth Acta Endocrinologica Congress
Munich
June 26–30, 1979

PERIODICA · COPENHAGEN 1979

Eigentum der
Universitäts-Bibliothek
München

GENERAL CONTENTS

Contents in detail	IV
Time-Table	VI
Poster Sessions	1–353
Short Communication Sessions – Oral Presentation	354–413
Symposia	414–487
Plenary Lectures	488–493
Anwards	494–513
Authors' Index	515–527

PROGRAMME ORGANIZING COMMITTEE

Chairman: J. Zander (München)

Secretary: P. C. Scriba (München)

F. Bidlingmaier (München)
M. Breckwoldt (Freiburg)
O. Butenandt (München)
R. Claus (München-Weihenstephan)
J. Hammerstein (Berlin)
K. D. Hepp (München)
P. W. Jungblut (Wilhelmshaven)
H. Karg (München-Weihenstephan)
D. Knorr (München)
R. Landgraf (München)
H. Mehnert (München)
H. Mickan (München)
E. F. Pfeiffer (Ulm)
C. Renate Pickardt (München)
D. Schams (München-Weihenstephan)
Rosmarie Vogel (München)
K. von Werder (München)
W. Wuttke (Göttingen)
R. Ziegler (Ulm)

CONTENTS

POSTER SESSIONS I, II, III

	Abstract numbers and pages
Thyroid	1– 26
TSH and TSI	27– 47
Adrenal	48– 56
ACTH and Related Peptides	57– 81
Testis	82– 96
Ovary	97–114
Pregnancy	115–120
Puberty	121–128
Gonadotrophins	129–157
Prolactin	158–187
Growth Hormone	188–200
Pituitary Tumor	201–205
Oxytocin / ADH	206–218
Hypothalamus	219–236
Pineal / Brain Hormones	237–244
Hormonal Effects on CNS / Behaviour	245–253
Comparative Endocrinology / Pheromones	254–260
Receptors – Sexual Steroids	261–280
Receptors – Corticosteroids	281–286
Receptors – Proteohormones	287–301
Metabolism / Obesity	302–321
Gastrointestinal Hormones	322–325
Parathyrin / Vitamin D / Calcitonin	326–335
Hypertension	336–353

SHORT COMMUNICATION SESSIONS 1–6

– ORAL PRESENTATION

SC 1a	Gonadotrophins	354–358
SC 1b	Ovary / Placenta	359–363
SC 2a	Thyroid	364–369
SC 2b	Hypothalamic Hormones	370–373
SC 3a	ACTH and Related Peptides	374–379
SC 3b	Hypertension	380–383
SC 4a	Steroids: Metabolism, Effect	384–389
SC 4b	Hypogonadism	390–393
SC 5a	Prolactin / Growth Hormone	394–399
SC 5b	Parathyrin	400–403
SC 6a	Metabolism / Gastrointestinal Hormones	404–408
SC 6b	Antidiuretic Hormone	409–413

SYMPOSIA 1-9	Abstract / pages numbers
S 1 Neuropeptides	414-418 / 414-422
S 2 Pheromones	419-424 / 423-433
S 3 The Insulin Receptor	425-429 / 434-441
S 4 Progress in Thyroidology	430-434 / 442-449
S 5 "Kidney Hormones" in the Regulation of Vascular and Tubular Functions	435-439 / 450-456
S 6 Sexual Dimorphism	440-444 / 457-465
S 7 Regulation of Gonadotrophin Secretion	445-449 / 466-472
S 8 Hormone Receptor Systems	450-454 / 473-480
S 9 Progress in the Management of Disorders of Calcium Metabolism and Bone Diseases	455-459 / 481-487

PLENARY LECTURES

B. T. PICKERING: Cellular mechanism of hormone synthesis, transport and release	460 /	488
H. STUDER: Pathogenetic mechanisms resulting in euthyroid and hyperthyroid, non-immunogenic goiters	461 /	489
W. J. IRVINE: Immunology of diabetes mellitus and other endocrine diseases	462 /	491

FOURTH GEOFFREY HARRIS MEMORIAL LECTURE:

B. FLERKO: The hypophysial portal circulation to-day	463 /	492
--	-------	-----

AWARDS OF THE GERMAN SOCIETY

FOR ENDOCRINOLOGY	464-468 / 494-513
-------------------	-------------------

MICROHETEROGENEITY OF THYROXINE-BINDING GLOBULIN (TBG)
IN DIFFERENT METABOLIC STATES. R. Gärtner, R. Henze,
K. Horn, C.R. Pickardt and P.C. Scriba, Medizinische Klinik
Innenstadt der Universität München, FRG.

The interpretation of microheterogeneity of TBG demonstrated in isolated TBG from pooled human serum in analytical isoelectric focusing (IEF) is still controversial. Whereas Gershengorn et al. (1977) assumed an irreversible transition of TBG near the isoelectric point we now could demonstrate that microheterogeneity of TBG is caused by different N-acetylneuraminic acid contents. The purpose of this study was to investigate the microheterogeneity of TBG in native human sera in different metabolic states and in sera from patients with TBG deficiency.

Methods: IEF was performed on flat-bed polyacrylamide gels (PAG-plates), with a continuous pH-gradient from pH 3.5 to 5.0 and pH 4.0 - 6.5 respectively. The focussed TBG was identified by immunofixation using cellulose-acetate strips, soaked with monospecific TBG-antisera. Immediately after IEF, strips were placed on the PAG-plates for an incubation time of two minutes. The non-precipitated proteins were removed by washing in tap-water and the strips stained with Coomassie-Blue.

Results: In agreement with the pattern of TBG isolated from pooled serum three major TBG-bands were found at pH 4.55, pH 4.45, pH 4.35 and a minor band at pH 4.25 in individual sera from normal adults. These typical patterns were also demonstrated in hypo- and hyperthyroidism as well as in genetic TBG-deficiency. Characteristic deviations from this microheterogeneity could however be demonstrated in pregnancy: during the continuous increase in TBG-concentration a further band at pH 4.15 appeared and the precipitation line at pH 4.25 became more intensive, whereas the most alkaline band at pH 4.55 faded. In contrast, liver diseases with elevated TBG-concentrations are characterised by an intensified band at pH 4.55 and diminution of the band at pH 4.25. In the sera of healthy mature newborns a comparable pattern to that of normal adults was found. In contrast, in the sera of premature infants four double bands were found in the pH area typical for normal adults. This foetal TBG pattern was normalized when the sera were re-examined 6 months later.

Conclusions: Typical microheterogeneity of TBG was found in native sera of normals which was not influenced by thyroid diseases. However in states with increased glycoprotein synthesis as induced by oestrogens a more sialylated TBG, detected by an additional acid band could be demonstrated in IEF. In contrast, in liver diseases with diminished glycoprotein degradation an increase of desialylated TBG with an intensified alkaline band was found. In genetic TBG deficiency microheterogeneity of TBG was comparable to that of normals.

Gershengorn M.C. et al.: J.Biol.Chem.252 (1977) 8719-8723.

⁺ Supported by the Deutsche Forschungsgemeinschaft (Sonderforschungsbereich 51)