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Literature Service



Thyroid Diseases

Quintessences of Progress in Thyroidology

Issue 59 – October 2005

Up-to-date summaries
of central communications from
relevant publications in the field
of thyroid diseases

*Pathogenesis, Epidemiology,
Molecular Endocrinology,
Clinical studies, Diagnostics,
Therapy, Prognoses, Disease
progression*

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- 59.1** During follow-up of patients with differentiated thyroid carcinomas (n = 107) a single rhTSH-Tg less than 0.5 ng/mL, when TgAb are absent, can identify 98% of patients completely free of thyroid tumor.
- A Single Recombinant Human Thyrotropin-Stimulated Serum Thyroglobulin Measurement Predicts Differentiated Thyroid Carcinoma Metastases Three to Five Years Later**
 Richard T. Kloos, and Ernest L. Mazzaferri
Division of Endocrinology, Shands Hospital, Gainesville, Florida 32610-0226, USA
J Clin Endocrinol Metab 90 (9): 5047-5057, 2005
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- 59.2** In patients with papillary and follicular thyroid carcinoma (n = 500) the cumulative risk of distant metastases increased once the primary tumor size was >20 mm as shown for the first time.
- The Prognostic Value of Primary Tumor Size in Papillary and Follicular Thyroid Carcinoma**
 Andreas Machens, Hans-Jürgen Holzhausen, Henning Dralle
Department of General, Visceral & Vascular Surgery, Martin-Luther-University Halle-Wittenberg, Halle, Germany
Cancer 103: 2269-2273, 2005
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- 59.3** In a series of acromegalic patients (n = 125) diffuse or nodular goitre was present in 82%, abnormal thyroid function in 6%, and differentiated thyroid cancer in 5-6% of cases. High serum IGF-1 levels may be involved.
- High prevalence of differentiated thyroid carcinoma in acromegaly**
 Patrizia Tita et al., Ettore C. degli Uberti, and Vincenzo Pezzino
Servizio di Diabetologia, Ospedale Cannizzaro, 95126 Catania, Italy
Clin Endocrinol 63: 161-167, 2005
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- 59.4** Of 21,748 subjects examined by thyroid ultrasonography with FNA cytology 3,629 (16.7%) got surgical treatment: 76.1% had benign, 23.6% malignant nodules, 0.3% atypical adenoma. Thus 3.6% of cases (n = 21,748) showed proven thyroid malignancy.
- Thyroid Cancer in the Thyroid Nodules Evaluated by Ultrasonography and Fine-Needle Aspiration Cytology**
 Jen-Der Lin et al., Hung-Yu Chang, and Chuen Hsueh
Division of Endocrinology and Metabolism, Chang Gung Memorial Hospital, Taoyuan Hsien, Taiwan R.O.C.
THYROID 15 (7): 708-717, 2005
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- 59.5** It was shown that real time RT-PCR of oncofetal fibronectin mRNA is superior to other markers in monitoring the follow-up of differentiated thyroid carcinoma.
- Oncofoetal fibronectin – a tumour-specific marker in detecting minimal residual disease in differentiated thyroid carcinoma**
 E. Hesse, P.B. Musholt, E. Potter, T. Petrich, M. Wehmeier, R. von Wasielewski, R. Lichtinghagen, and T.J. Musholt
Clinical Chemistry, Hannover University Medical School, Hannover, Germany
British Journal of Cancer 93: 565-570, 2005
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- The combination of the results of ECM1 and TMPRSS4 mRNA expression measured in FNA biopsy samples predicted thyroid malignancy with 91.7% sensitivity and 89.8% specificity; the positive predictive value being 85.7%, negative predictive value 82.8%.**
- ECM1 and TMPRSS4 are Diagnostic Markers of Malignant Thyroid Neoplasms and Improve the Accuracy of Fine Needle Aspiration Biopsy**
 Electron Kebebew, Miao Peng, Emily Reiff, Quan-Yang Duh, Orlo H. Clark, and Alex McMillan
Endocrine Surgery & Oncology Program, UCSF Comprehensive Cancer Center, San Francisco, CA 94143-1674, USA
Ann Surg 242: 353-363, 2005
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- 59.6** Osteopontin expressions evaluated by immuno histochemistry (n = 117) indicate that osteopontin might be used as a diagnostic and prognostic marker for papillary thyroid carcinoma and may also be a molecular target for therapeutic intervention.
Osteopontin Is Overexpressed in Human Papillary Thyroid Carcinomas and Enhances Thyroid Carcinoma Cell Invasiveness
 Valentina Guarino et al., Rosa Marina Melillo, and Massimo Santoro
Dipartimento di Biologia e Patologia Cellulare e Molecolare, Università di Napoli Federica II, Naples, Italy
J Clin Endocrinol Metab 90 (9): 5270-5278, 2005
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- 59.7** hNIS-transfected – by use of the calcitonin promotor – medullary thyroid cancer cells showed perchlorate-sensitive iodide uptake and 12-fold ¹²⁵I accumulation with 4% organification. In vitro 84% of transfected cells but only 0.6% of control cells were killed by ¹³¹I, potentially
.... A Novel Therapeutic Strategy for Medullary Thyroid Cancer Based on Radioiodine Therapy following Tissue-Specific Sodium Iodide Symporter Gene Expression
 Neziha Cengie, Claire H. Baker, Martin Schütz, Burkhard Göke, John C. Morris, and Christine Spitzweg
Klinikum Großhadern, Medizinische Klinik II, München, Germany
J Clin Endocrinol Metab 90 (8): 4457-4464, 2005
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- 59.8** By mutating the thyroid hormone receptor-β-locus to completely abolish co-activator recruitment in homozygous E457 mice paradoxically also an abnormal regulation of the hypothalamic-pituitary-thyroid axis was achieved. Thus
..... Negative regulation by thyroid hormone receptor requires an intact co-activator-binding surface
 Tania M. Ortiga-Carvalho et al., Ronald N. Cohen, Samuel Refetoff, and Fredric E. Wondisford
Departments of Pediatrics and Medicine, Johns Hopkins Medical Institute, Baltimore, Maryland 21287, USA
J Clin Invest 115: 2517-2523, 2005
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- 59.9** The U.S. median urine iodine level has stabilized 2001-2002 at 167.8 µg/L since the initial drop between 1971-1974 and 1988 - 1994 from 320 µ/L to 145 µg/L.
Urinary iodine concentration: United States national health and nutrition examination survey 2001-2002
 K.L. Caldwell, R. Jones, J.G. Hollowell
Division of Laboratory Sciences, National Center for Environment Health, Atlanta, Georgia, USA
THYROID 15 (7): 692-699, 2005
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- 59.10** Analysis of genomic DNA from 134 hyperplastic/adenomatous thyroid nodules from 50 hyperthyroid cats for mutations in Exon 10 of the TSH-R gene revealed 11 different mutations. 28 of the 50 cats (67/134 nodules) had at least one mis-sense mutation. An important confirmation of similarity to human toxic nodular goiter.
Somatic mutations of the thyroid-stimulating hormone receptor gene in feline hyperthyroidism: parallels with human hyperthyroidism
 S.G. Watson, A.D. Radford, A. Kipar, P. Ibarrola, and L. Blackwood
Small Animal Hospital, Department of Veterinary Clinical Science, University of Liverpool, Merseyside L7 7EX, UK
J Endocrinol 186: 523-537, 2005
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- 59.11** A mouse monoclonal antibody that could be crystallized and analyzed by x-ray diffraction was found to be an effective antagonist of thyroid stimulating activity in 14 of 14 sera from Graves' disease patients. It bound to the TSH-R with high affinity and inhibited binding of TSH-R stimulating and TSH binding inhibiting antibodies.
Characteristics of a Monoclonal Antibody to the Thyrotropin Receptor that Acts as a Powerful Thyroid-Stimulating Autoantibody Antagonist
 J. Sanders et al., T.L. Blundell, J. Furmaniak, and B. Rees Smith
FIRS Laboratories, RSR Limited, Parc Ty Glas, Llanishen, Cardiff CF14 5DU, UK
THYROID 15 (7): 672-682, 2005
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- 59.12** Simvastatin (20 mg/day for 8 weeks) given to patients with Hashimoto's thyroiditis (n = 11) increased fT₃ and fT₄ and decreased TSH levels. CD4+ cells and B lymphocytes increased, whilst CD8+ cells, killer cells and activated T lymphocytes decreased. Simvastatin is an immune modulatory agent.
- In vivo and in vitro effects of statins on lymphocytes in patients with Hashimoto's thyroiditis*
 Sevim Gullu, Rifat Emral, Mehmet Bastemir, Arthur B. Parkes, and John H. Lazarus
Department of Endocrinology and Metabolic Diseases, Ibn-I Sina Hospital, Ankara University, Ankara, Turkey
 Eur J Endocrinol 153: 41-48, 2005
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- 59.13** In patients with Hashimoto's thyroiditis (n = 24) frequencies of T cells producing Th/Tc1 cytokines potentially causing thyroid damage correlate with high TPO-Ab titres – as shown for the first time.
- Relation of anti-TPO autoantibody titre and T-lymphocyte cytokine production patterns in Hashimoto's thyroiditis*
 Georgios Karanikas et al., Robert Dudczak, and Martin Willheim
Departments of Nuclear Medicine and Pathophysiology, Medical University of Vienna, Vienna, Austria
 Clin Endocrinol 63: 191-196, 2005
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- 59.14** Glucocorticoids given to Graves' disease patients (n = 96) during ¹³¹I therapy (25 mg/d for 30 days, 2 days before ¹³¹I) in order to avoid initiation or aggravation of ophthalmopathy had no impact on the final outcome.
- Glucocorticoids do not influence the effect of radioiodine therapy in Graves' disease*
 Berit E. Jensen, Steen J. Bonnema, and Laszlo Hegedüs
Department of Endocrinology and Metabolism, Odense University Hospital, Odense, Denmark
 Eur J Endocrinol 153: 15-21, 2005
-
- 59.15** Glucocorticoid treatment of patients (n = 70) with active and moderately severe Graves' ophthalmopathy for 3 months was effective by i.v. administration in 27 of 35 cases (77%) versus in 18 of 35 (51%) by oral.
- Randomized, Single Blind Trial of Intravenous versus Oral Steroid Monotherapy in Graves' Orbitopathy*
 George G. Kahaly, Susanne Pitz, Gerhard Hommel, and Manuela Dittmar
Department of Medicine, University Hospital, Mainz, Germany
 J Clin Endocrinol Metab 90 (9): 5234-5240, 2005
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- 59.16** Different forms of thyroid disease are associated with increased vascular risk despite restoration of euthyroidism. Relative risks of Graves' disease patients 1.42, toxic nodular goitre 1.50. Hashimoto's thyroiditis patients aged over 50 years had a threefold increase in cardiovascular hospital admissions.
- Thyroid Disease and Increased Cardiovascular Risk*
 Moffat J. Nyirenda et al., Keith A.A. Fox, and Anthony D. Toft
Endocrine Clinic, Royal Infirmary Edinburgh, Edinburgh EH16 4SA, Scotland, UK
 THYROID 15 (7): 718-724, 2005
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- 59.17** Of 165,307 patients discharged from hospitals with diagnosis of hypothyroidism, 1,041 were re-hospitalized with affective disorders. Therefore a
- Increased risk of developing affective disorder in patients hypothyroidism: a register-based study*
 A.F. Thomsen, T.K. Kvist, P.K. Andersen, and L.V. Kessing
Department of Psychiatry, Rigshospitalet, University Hospital of Copenhagen, Denmark
 THYROID 15 (7): 700-707, 2005
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- 59.18** **Thyroid hormone suppressive therapy (results from 9 trials, n = 609) appears more likely than placebo or no treatment to significantly reduce benign thyroid nodule volume, but long-term treatment may be less effective and re-growth is likely upon cessation.**
Efficacy of Thyroid Hormone Suppression for Benign Thyroid Nodules: Meta-analysis of Randomized Trials
 Matthew T. Sdano, Mercedes Falciglia, Jeffrey A. Welge, and David L. Steward
Department of Otolaryngology, University of Cincinnati College of Medicine, Cincinnati, Ohio 45267-0528, USA
Otolaryngology-Head and Neck Surgery 133: 391-396, 2005
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- 59.19** **Patients with postpartum thyroiditis (n = 172) and subclinical (n = 27) respectively overt hypothyroidism (n = 145) were treated with levothyroxine for 23 ± 16 months. After T₄ withdrawal 59% respectively 64% were permanently hypothyroid.**
The occurrence of permanent thyroid failure in patients with subclinical postpartum thyroiditis
 F. Azizi
Endocrine Research Center, Shaheed Beheshti University of Medical Sciences, Tehran, Islamic Republic of Iran
Eur J Endocrinol 153: 367-371, 2005
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- 59.20** **Results of percutaneous ethanol injection therapy in solid thyroid nodules (n = 198) and complex thyroid cysts were as follows: Complete response 17.2% and 19%, partial response 71.7% and 60.4%, no response 11.1% and 20.6%, but may not induce disappearance of hot nodules (n = 24).**
Effectiveness of Percutaneous Ethanol Injection Therapy in Benign Nodular and Cystic Thyroid Diseases: Long-term Follow-up Experience
 Seong Jin Lee and Il-Min Ahn
Division of Endocrinology and Metabolism, Department of Internal Medicine, College of Medicine, Hallym University, Chuncheon, South Korea
Endocrine Journal 52 (4): 455-462, 2005
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- 3 of 22 patients with solitary thyroid cystic nodules were successfully treated using a second ethanol injection 2 weeks after the first, a**
..... Modified Percutaneous Ethanol Injection in the Treatment of Viscous Cystic Thyroid Nodules
 Witold Zieleźnik, Aleksandra Kawczyk-Krupka, Marta Peszel Barlik, Wojciech Cebula, and Aleksander Sieroń
Clinic of Internal Diseases and Physical Medicine, Silesian Medical University, Bytom, Poland
THYROID 15 (7): 683-686, 2005
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Reviews

- R 59-1** **All about thyroid hormone deiodination and deiodinases: 16 publications (see enclosure)**
 THYROID 15 (8): 753-756, 769-840, 855-942, 2005
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- R 59-2** **Thyroid Hormone Transporters in Health and Disease**
 Jürgen Jansen, Edith C.H. Friesema, Carmelina Milici, and Theo J. Visser
Department of Internal Medicine, Erasmus MC, 3015 GE Rotterdam, The Netherlands
 THYROID 15 (8): 757-768, 2005
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- R 59-3** **Selenium and the Control of Thyroid Hormone Metabolism**
 Josef Köhrle
Institut für Experimentelle Endokrinologie und Endokrinologisches Forschungszentrum der Charité, Campus Charité Mitte, Humboldt-Universität zu Berlin, Germany
 THYROID 15 (8): 841-853, 2005
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- R 59-4 Alternate Pathways of Thyroid Hormone Metabolism**
 Sing-yung Wu, William L. Green, Wen-sheng Huang, Marguerite T. Hays, and Inder J. Chopra
Nuclear Medicine and Medical Services, VA-UCI Medical Center, Long Beach, CA 90822, USA
 THYROID 15 (8): 943-958, 2005
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- R 59-5 Empirically Treating High Serum Thyroglobulin Levels**
 Comment on *Is Empiric 131I Therapy Justified for Patients with Positive Thyroglobulin and Negative 131I Whole-Body Scanning Results?* (see Quintessences No. 58.16)
 Ernest L. Mazzaferri
4020 S.W. 93rd Dr., Gainesville, Florida 32608-4653, USA
 J Nucl Med 46 (7): 1079-1088, 2005
-
- R 59-6 Thyrotropin receptor-associated diseases: from adenomata to Graves' disease**
 Terry F. Davies, Takao Ando, Reigh-Yi Lin, Yaron Tomer, and Rauf Latif
Department of Medicine, Mount Sinai School of Medicine, New York, New York, USA
 J Clin Invest 115 (8): 1972-1983
-
- R 59-7 Growing an Interest in Autoimmune Thyroid Disease – an Interview with Robert Volpé**
 Terry F. Davies
Department of Medicine, Mount Sinai School of Medicine, New York, New York, USA
 THYROID 15 (7): 633-644, 2005
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- R 59-8 Observations Concerning the Natural History of Subclinical Hyperthyroidism**
 Kenneth A. Woeber
University of California San Francisco, San Francisco, CA 94143-1640, USA
 THYROID 15 (7): 687-691, 2005
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- R 59-9 Controversy in Clinical Endocrinology**
The Evidence for a Narrower Thyrotropin Reference Range Is Compelling
 Leonard Wartofsky and Richard A. Dickey
Department of Medicine, Washington Hospital Center, Washington, D.C. 20010-2975, USA
 J Clin Endocrinol Metab 90 (9): 5483-5488, 2005
-
- Controversy in Clinical Endocrinology**
The Thyrotropin Reference Range Should Remain Unchanged
 Martin I. Surks, Gayotri Goswami, and Gilbert H. Daniels
Division of Endocrinology and Metabolism, Montefiore Medical Center, Bronx, New York 10467, USA
 J Clin Endocrinol Metab 90 (9): 5489-5496, 2005
-
- R 59-10 Review: Treatment of Hypothyroidism with Combinations of Levothyroxine plus Liothyronine**
 Héctor F. Escobar-Morreale, José I. Botella-Carretero, Francisco Escobar del Rey, and Gabriella Morreale de Escobar
Department of Endocrinology, Hospital Ramón y Cajal, Madrid, Spain
 J Clin Endocrinol Metab 90 (8): 4946-4954, 2005
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- R 59-11 Nationwide Survey on the Treatment Policy for Well-differentiated Thyroid Cancer – Results of a Questionnaire Distributed at the 37th Meeting of the Japanese Society of Thyroid Surgery**
 Naoyuki Shigematsu, Hiroshi Takami, Nobutake Ito, and Atsushi Kubo
Department of Radiology, Keio University School of Medicine, Tokyo 160-8582, Japan
 Endocrine Journal 52 (4): 479-491, 2005
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