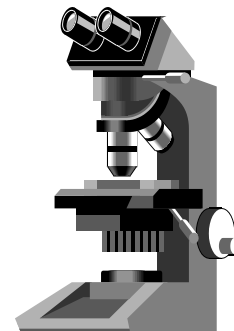


CALIFORNIA  
TUMOR TISSUE REGISTRY

## *ENDOCRINE PATHOLOGY*

Minutes – Subscription B

April 2014



### **SUGGESTED READING (General Topics from Recent Literature):**

- Scantlebury JB, Luo J, et al. Cyclin D1 – A Prognostic Marker in Oropharyngeal Squamous Cell Carcinoma That Is Tightly Associated With High-Risk Human Papillomavirus Status. *Hum Pathol* 2013;44:1672-1680.
- Menahem S. Cardiac Asystole Following Cannabis (Marijuana Usage – Additional Mechanism for Sudden Death?) *Forensic Sci Int* 2013;233.
- Gazinska P, Grigoriadis A, et al. Comparison of Basal-Like Triple-Negative Breast Cancer Defined by Morphology, Immunohistochemistry and Transcriptional Profiles. *Mod Pathol* 2013;26:955-966.
- Pigal A, Draganova-Tacheva R, et al. Thyroglobulin Wash Testing in the Surveillance of Patients With Thyroid Carcinoma: Proposal for a Reflex Test. *Acta Cytol* 2013;57:545-549.
- Laskin WB, Fetsch JF, Miettinen M. Myxoinflammatory Fibroblastic Sarcoma: A Clinicopathologic Analysis of 104 Cases, With Emphasis on Predictors of Outcome. *Am J Surg Pathol* 2014;38:1-12.

California Tumor Tissue Registry  
c/o: Department of Pathology and Human Anatomy  
Loma Linda University School of Medicine  
11021 Campus Avenue, AH 335  
Loma Linda, California 92350  
(909) 558-4788  
FAX: (909) 558-0188  
E-mail: [cttr@linkline.com](mailto:cttr@linkline.com)  
Web site & Case of the Month: [www.cttr.org](http://www.cttr.org)

## **FILE DIAGNOSES**

**CTTR Subscription B**

**April 2014**

**Case 1:**

Hyalinizing trabecular adenoma, thyroid

**Case 2:**

Papillary carcinoma, tall cell variant, thyroid

**Case 3:**

Medullary carcinoma, thyroid

**Case 4:**

Malignant teratoma, thyroid

**Case 5:**

Metastatic poorly differentiated thyroid follicular carcinoma, calcaneous bone

**Case 6:**

Neuroendocrine carcinoma (“atypical carcinoid”), thymus

**Case 7:**

Myelolipoma with adrenal cortical adenoma, adrenal

**Case 8:**

Macronodular adrenocortical adenoma, adrenal

**Case 9:**

Adrenal cortical adenoma with compensatory hyperplasia (likely Conn’s syndrome), adrenal

**Case 10:**

Pheochromocytoma, adrenal

Glendale - Hyalinizing trabecular adenoma  
Connecticut (Danbury Hospital) - Hyalinizing trabecular adenoma  
Delaware (Armed Forced Medical Examiner System) - Hyalinizing trabecular adenoma  
Georgia, Atlanta - Hyalinizing trabecular tumor  
Illinois (Heartland Regional Medical Center) - Hyalinizing trabecular adenoma  
Kansas (Peterson laboratory Services) - Hyalinizing trabecular adenoma  
Michigan (University of Michigan) - Hyalinizing trabecular tumor  
Oregon (Oregon Health & Science University) - Hyalinizing trabecular tumor  
Puerto Rico (University of Puerto Rico) - Hyalinizing trabecular tumor rule out papillary columnar cell variant  
Tennessee, Knoxville - Hyalinizing trabecular tumor  
Texas (Anderson Cancer Center) - Hyalinizing trabecular tumor  
Texas, Lubbock - Medullary carcinoma  
Wisconsin (Medical Assessment & Cons, S.C.) - Hyalinizing trabecular follicular adenoma  
Australia (Royal Prince Alfred Hospital) - Insular carcinoma  
Canada (Royal Alexandra Hospital) - Hyalinizing trabecular tumor  
Canada (Pasqua Hospital) - Hyalinizing trabecular adenoma  
Ireland (Connolly Hospital) - Hyalinizing trabecular adenoma  
Saudi Arabia (King Khalid University Hospital) - Hyalinized trabecular adenoma of the thyroid gland  
Japan (Asahi General Hospital) - Papillary carcinoma, columnar cell variant  
Japan (University of Yamanashi) - Hyalinizing trabecular tumor

**Case 1 – Diagnosis:**

Hyalinizing trabecular adenoma, thyroid

**Case 1 - References:**

Hyalinizing trabecular tumour of the thyroid-differential expression of distinct miRNAs compared with papillary thyroid carcinoma.

*Histopathology* 2010; Apr;56(5): p632-40.

Sheu SY; Vogel E, et al.

Cytopathological diagnosis of hyalinizing trabecular tumour, a rare thyroid neoplasm.

*Cytopathology* 2010; Apr;21(2): p133-4.

Agarwal S; Mathur SR, et al.

Hyalinizing trabecular tumors of the thyroid gland are almost all benign.

*Am J Surg Pathol* 2008; Dec;32(12): p1877-89.

Carney JA; Hirokawa M, et al.

Hyalinizing trabecular adenoma--an uncommon thyroid tumor frequently misdiagnosed as papillary or medullary thyroid carcinoma.

*Am J Surg* 2007; Jun;193(6): p707-12.

Evenson A; Mowschenson P, et al.

Hyalinizing trabecular adenoma of the thyroid gland: cytologic features in 29 cases.

*Am J Surg Pathol* 2004; Jul;28(7): p859-67.

Casey MB; Sebo TJ; Carney JA.

Hyalinizing trabecular adenoma of the thyroid revisited: a histologic and immunohistochemical study of thyroid lesions with prominent trabecular architecture and sclerosis.

*Am J Surg Pathol* 2006; Oct;30(10): p1269-73.

Galgano MT; Mills SE; Stelow EB.

Glendale - Papillary carcinoma  
Connecticut (Danbury Hospital) - Papillary thyroid carcinoma, tall cell variant  
Delaware (Armed Forces Medical Examiner System) - Papillary carcinoma  
Georgia, Atlanta - Papillary thyroid carcinoma  
Illinois (Heartland Regional Medical Center) - Papillary carcinoma, tall cell variant  
Kansas (Peterson Laboratory Services) - Papillary carcinoma, tall cell  
Michigan (University of Michigan) - Papillary thyroid carcinoma  
Oregon (Oregon Health & Science University) - Papillary thyroid carcinoma, Warthin variant  
Puerto Rico (University of Puerto Rico) - Papillary thyroid carcinoma, oncocytic, Warthin type vs. columnar type  
Tennessee, Knoxville - Papillary thyroid carcinoma  
Texas (Anderson Cancer Center) - Papillary thyroid carcinoma, Warthin variant  
Texas, Lubbock - Papillary carcinoma, follicular variant  
Wisconsin (Medical Assessment & Cons, S.C.) - Papillary carcinoma  
Australia (Royal Prince Alfred Hospital) - Papillary carcinoma with chronic thyroiditis  
Canada (Royal Alexandra Hospital) - Papillary carcinoma, tall cell variant  
Canada (Pasqua Hospital) - Papillary carcinoma, columnar cell type  
Ireland (Connolly Hospital) - Papillary carcinoma  
Saudi Arabia (King Khalid University Hospital) - Papillary carcinoma of the thyroid "tall cell variant"  
Japan (Asahi General Hospital) - Papillary carcinoma, tall cell variant  
Japan (University of Yamanashi) - Papillary carcinoma

**Case 2 - Diagnosis:**

Papillary carcinoma, tall cell variant, thyroid

**Case 2 - References:**

Papillary thyroid carcinoma tall cell variant.

*Thyroid* 2008; Nov;18(11): p1179-81.

Ghossein R; Livolsi VA.

Prevalence and prognostic significance of tall cell variant of papillary thyroid carcinoma.

*Hum Pathol* 2007; Feb;38(2): p212-9.

Michels JJ; Jacques M, et al.

Tall cell variant of papillary thyroid carcinoma without extrathyroid extension: biologic behavior and clinical implications.

*Thyroid* 2007; Jul;17(7): p655-61.

Ghossein RA; Leboeuf R, et al.

Papillary thyroid carcinoma and its variants in fine needle aspiration smears. A cytomorphologic study with special reference to tall cell variant.

*Acta Cytol* 2004; May-Jun;48(3): p325-36.

Das DK; Mallik MK, et al.

Tall cell variant of papillary carcinoma arising from a thyroglossal cyst: report of a case with diagnosis by fine needle aspiration cytology.

*Acta Cytol* 2006; Mar-Apr;50(2): p221-4.

Koybasioglu F; Simsek GG; Onal BU.

Glendale - Medullary carcinoma  
Connecticut (Danbury Hospital) - Medullary carcinoma

Delaware (Armed Forced Medical Examiner System) - Insular carcinoma  
Georgia, Atlanta - Poorly differentiated (insular) carcinoma  
Illinois (Heartland Regional Medical Center) - Medullary carcinoma  
Kansas (Peterson laboratory Services) - Medullary carcinoma  
Michigan (University of Michigan) - Poorly differentiated thyroid carcinoma  
Oregon (Oregon Health & Science University) - Medullary carcinoma  
Puerto Rico (University of Puerto Rico) - Medullary thyroid carcinoma vs. carcinoid  
Tennessee, Knoxville - Medullary thyroid carcinoma  
Texas (Anderson Cancer Center) - Hyalinizing trabecular adenoma vs. paraganglioma  
Texas, Lubbock - Insular carcinoma  
Wisconsin (Medical Assessment & Cons, S.C.) - Paraganglioma vs. medullary carcinoma  
Australia (Royal Prince Alfred Hospital) - Medullary carcinoma (DDx: Spindle cell carcinoid)  
Canada (Royal Alexandra Hospital) - Medullary carcinoma  
Canada (Pasqua Hospital) - Poorly differentiated carcinoma  
Ireland (Connolly Hospital) - Medullary carcinoma  
Saudi Arabia (King Khalid University Hospital) - Medullary carcinoma of the thyroid  
Japan (Asahi General Hospital) - Hyalinizing trabecular tumor  
Japan (University of Yamanashi) - Medullary carcinoma

### **Case 3 - Diagnosis:**

Medullary carcinoma, thyroid

### **Case 3 - References:**

Medullary thyroid carcinoma metastatic to the pituitary gland: an unusual site of metastasis.

*Ann Diagn Pathol* 2008; Jun;12(3): p199-203.

Williams MD; Asa SL; Fuller GN.

Fine needle aspiration cytology of mixed medullary-follicular thyroid carcinoma: a case report.

*Acta Cytol* 2008; May-Jun;52(3): p361-5.

Hsieh MH; Lin MC, et al.

Desmoplasia in medullary thyroid carcinoma: a reliable indicator of metastatic potential.

*Histopathology* 2008; Apr;52(5): p623-30.

Koperek O; Scheuba C, et al.

Prognosis of medullary thyroid carcinoma: demographic, clinical, and pathologic predictors of survival in 1252 cases.

*Cancer* 2006; Nov 1;107(9): p2134-42.

Roman S; Lin R; Sosa JA.

Multiple endocrine neoplasia type 2 and familial medullary thyroid carcinoma: an update.

*J Clin Endocrinol Metab* 2013; Aug;98(8): p3149-64.

Wells SA; Pacini F, et al.

Medullary thyroid carcinoma, small cell variant, as a diagnostic challenge on fine needle aspiration: a case report.

*Acta Cytol* 2010; Sep-Oct;54(5 Suppl): p911-7.

Yerly S; Triponez F, et al.

### **Case No. 4, Accession No. 31613**

**April 2014**

Glendale - Medullary carcinoma

Connecticut (Danbury Hospital) - Small cell carcinoma/small cell variant of medullary carcinoma

Delaware (Armed Forced Medical Examiner System) - Undifferentiated carcinoma

Georgia, Atlanta - Immature teratoma

Illinois (Heartland Regional Medical Center) - Small cell anaplastic carcinoma

Kansas (Peterson laboratory Services) - Insular carcinoma  
Michigan (University of Michigan) - Medullary thyroid carcinoma  
Oregon (Oregon Health & Science University) - Small cell carcinoma  
Puerto Rico (University of Puerto Rico) - Poorly differentiated carcinoma vs. neuroendocrine carcinoma, rule out alveolar rhabdomyosarcoma  
Tennessee, Knoxville - Small round blue cell tumor  
Texas (Anderson Cancer Center) - Malignant teratoma with PNET component  
Texas, Lubbock - Poorly differentiated carcinoma  
Wisconsin (Medical Assessment & Cons, S.C.) - Medullary carcinoma, small cell variant  
Australia (Royal Prince Alfred Hospital) - Small round blue cell tumor/DSRCT  
Canada (Royal Alexandra Hospital) - Anaplastic carcinoma  
Canada (Pasqua Hospital) - PNET  
Ireland (Connolly Hospital) - Undifferentiated carcinoma  
Saudi Arabia (King Khalid University Hospital) - Non-Hodgkin's lymphoma  
Japan (Asahi General Hospital) - Teratoma, malignant  
Japan (University of Yamanashi) - Malignant teratoma

#### **Case 4 - Diagnosis:**

Malignant teratoma, thyroid

Director's note. Not every slide showed cartilaginous differentiation. (drc)

#### **Case 4 - References:**

Immature teratoma of the mediastinum arising in ectopic thyroid tissue: a case report.

*Anal Quant Cytol Histol* 2009; Aug;31(4): p233-8.

Ranaldi R; Morichetti D, et al.

Malignant teratoma of the thyroid in a pregnant woman.

*Ann Diagn Pathol* 2010; Aug;14(4): p264-7.

Perez-Mies B; Regojo Zapata RM, et al.

Hypothyroidism due to Hashimoto thyroiditis post struma ovarii excision.

*Saudi Med J* 2004; Jul;25(7): p948-50.

Amareen VN; Haddad FH; Al-Kaisi NS.

Malignant teratoma of the thyroid: case report.

*Thyroid* 2006; Dec;16(12): p1311-3.

Martins T; Carrilho F, et al.

Primary thyroid teratomas in children: a report of 11 cases with a proposal of criteria for their diagnosis.

*Am J Surg Pathol* 2005; May;29(5): p700-6.

Riedlinger WF; Lack EE; Robson CD, et al.

#### **Case No. 5, Accession No. 31668**

**April 2014**

Glendale - Insular carcinoma  
Connecticut (Danbury Hospital) - Metastatic thyroid carcinoma, follicular type  
Delaware (Armed Forces Medical Examiner System) - Metastatic follicular carcinoma  
Georgia, Atlanta - Poorly differentiated (cribriform) carcinoma  
Illinois (Heartland Regional Medical Center) - Consistent with metastatic poorly differentiated follicular carcinoma  
Kansas (Peterson laboratory Services) - Anaplastic carcinoma  
Michigan (University of Michigan) - Poorly differentiated thyroid carcinoma  
Oregon (Oregon Health & Science University) - Insular carcinoma  
Puerto Rico (University of Puerto Rico) - Undifferentiated or poorly differentiated thyroid carcinoma vs. metastatic non-thyroid carcinoma

Tennessee, Knoxville - Metastatic poorly differentiated follicular carcinoma  
Texas (Anderson Cancer Center) - Follicular thyroid carcinoma  
Texas, Lubbock - Follicular carcinoma  
Wisconsin (Medical Assessment & Cons, S.C.) - Metastatic high grade follicular carcinoma  
Australia (Royal Prince Alfred Hospital) - Poorly differentiated thyroid carcinoma  
Canada (Royal Alexandra Hospital) - Metastatic poorly differentiated thyroid carcinoma  
Canada (Pasqua Hospital) - Follicular carcinoma  
Ireland (Connolly Hospital) - Metastatic carcinoma  
Saudi Arabia (King Khalid University Hospital) - Poorly differentiated carcinoma “insular carcinoma”  
Japan (Asahi General Hospital) - Medullary carcinoma  
Japan (University of Yamanashi) - Poorly differentiated thyroid carcinoma

#### **Case 5 - Diagnosis:**

Metastatic poorly differentiated thyroid follicular carcinoma, calcaneous bone

#### **Case 5 - References:**

Desmoplasia in medullary thyroid carcinoma: a reliable indicator of metastatic potential.  
*Histopathology* 2008; Apr;52(5): p623-30.  
 Koperek O; Scheuba C, et al.

Fine needle aspiration cytology of unsuspected metastatic hurthle cell carcinoma of the thyroid and its pitfalls: a report of two cases.  
*Diagn Cytopathol* 2007; Jul;35(7): p439-43.  
 Lallu S; Naran S; Bethwaite P.

Metastatic anaplastic carcinoma of the thyroid mimicking squamous cell carcinoma: report of a case of a challenging cytologic diagnosis.  
*Acta Cytol* 2006; Mar-Apr;50(2): p201-4.  
 Oktay MH; Smolkin MB, et al.

Metastatic papillary carcinoma of thyroid masquerading as a renal tumour.  
*J Clin Pathol* 2008; Jan;61(1): p143.  
 Gupta R; Viswanathan S, et al.

Metastatic follicular thyroid carcinoma diagnosed by fine needle aspiration cytology: a report of 3 cases.  
*Acta Cytol* 2005; Mar-Apr;49(2): p177-80.  
 Kumar PV; Monabati A, et al.

#### **Case No. 6, Accession No. 31548**

**April 2014**

Glendale - Thymic carcinoid  
Connecticut (Danbury Hospital) - Atypical carcinoid  
Delaware (Armed Forced Medical Examiner System) - Thymic carcinoid  
Georgia, Atlanta - Poorly differentiated neuroendocrine (small cell) carcinoma  
Illinois (Heartland Regional Medical Center) - Carcinoid tumor  
Kansas (Peterson laboratory Services) - High grade neuroendocrine carcinoma  
Michigan (University of Michigan) - Thymic carcinoid tumor  
Oregon (Oregon Health & Science University) - Thymic neuroendocrine tumor  
Puerto Rico (University of Puerto Rico) - Neuroendocrine carcinoma  
Tennessee, Knoxville - Small cell carcinoma  
Texas (Anderson Cancer Center) - Carcinoid  
Texas, Lubbock - Carcinoid tumor  
Wisconsin (Medical Assessment & Cons, S.C.) - Well-differentiated oncocytic neuroendocrine tumor  
Australia (Royal Prince Alfred Hospital) - Atypical carcinoid

Canada (Royal Alexandra Hospital) - Well-differentiated thymic neuroendocrine carcinoma  
Canada (Pasqua Hospital) - Neuroendocrine carcinoma  
Ireland (Connolly Hospital) - Neuroendocrine carcinoma  
Saudi Arabia (King Khalid University Hospital) - Thymic carcinoid  
Japan (Asahi General Hospital) - Neuroendocrine carcinoma  
Japan (University of Yamanashi) - Neuroblastoma

#### **Case 6 - Diagnosis:**

Neuroendocrine carcinoma (“atypical carcinoid”), thymus

#### **Case 6 - References:**

Treatment, prognostic markers and survival in thymic neuroendocrine tumours. a study from a single tertiary referral centre.

*Lung Cancer* 2013; Mar;79(3): p289-93.

Crona J; Bjorklund P, et al.

Primary neuroendocrine carcinoma of thymus: a rare cause of Cushing's syndrome.

*Indian J Pathol Microbiol* 2010; Jan-Mar;53(1): p148-51.

Arora R; Gupta R, et al.

Thymic neuroendocrine carcinoma producing ectopic adrenocorticotrophic hormone and Cushing's syndrome.

*Ann Thorac Surg* 2013; Oct;96(4): pe81-3.

Dixon JL; Borgaonkar SP, et al.

Thymic neuroendocrine carcinoma and thymoma are both associated with increased risk of extrathymic malignancy: a 20-year review of a single institution.

*Ann Thorac Surg* 2011; Jan;91(1): p219-25.

Yen YT; Lai WW, et al.

Primary neuroendocrine tumors of the thymus: a multicenter experience of 35 patients.

*Ann Thorac Surg* 2012; Jul;94(1): p241-5; discussion 245-6.

Cardillo G; Rea F, et al.

#### **Case No. 7, Accession No. 31472**

**April 2014**

Glendale - Myelolipoma

Connecticut (Danbury Hospital) - Myelolipoma

Delaware (Armed Forced Medical Examiner System) - Adrenal myelolipoma

Georgia, Atlanta - Myelolipoma

Illinois (Heartland Regional Medical Center) - Adrenal cortical adenoma with myelolipomatous metaplasia

Kansas (Peterson laboratory Services) - Myelolipoma

Michigan (University of Michigan) - Adrenal cortical adenoma with myelolipomatous metaplasia

Oregon (Oregon Health & Science University) - Adrenal myelolipoma

Puerto Rico (University of Puerto Rico) - Myelolipoma

Tennessee, Knoxville - Myelolipoma

Texas (Anderson Cancer Center) - Myelolipoma

Texas, Lubbock - Myelolipoma

Wisconsin (Medical Assessment & Cons, S.C.) - Adrenal myelolipoma

Australia (Royal Prince Alfred Hospital) - Myelolipoma

Canada (Royal Alexandra Hospital) - Myelolipoma

Canada (Pasqua Hospital) - Myelolipoma

Ireland (Connolly Hospital) - Cortical carcinoma (oncocytic)

Saudi Arabia (King Khalid University Hospital) - Adrenal myelolipoma

Japan (Asahi General Hospital) - Myelolipoma

Japan (University of Yamanashi) - Myelolipoma

**Case 7 - Diagnosis:**

Myelolipoma with adrenal cortical adenoma, adrenal

**Case 7 - References:**

Bilateral adrenocortical oncocytoma with bilateral myelolipomatous metaplasia.

*Endocr Pathol* 2012; Jun;23(2): p112-4.

Shastri C; Rana C; Kumari N; Agarwal G; Krishnani N.

Non-functional adrenocortical adenoma: a unique case of combination with myelolipoma and endothelial cysts.

*Pathol Res Pract* 2011; Mar 15;207(3): p192-6.

Yamada S; Tanimoto A; Wang KY; Ding Y; Guo X; Shimajiri S; Sasano H; Sasaguri Y.

Adrenal myelolipomas composed with adrenal nodular hyperplasia in the same gland.

*Pol J Pathol* 2012; Mar;63(1): p45-8.

Babinska A; Nalecz A; Swiatkowska-Stodulska R; Sworczak K.

Myelolipoma with adrenocortical adenoma: an unusual combination that can resemble carcinoma.

*Endocr Pathol* 2007; Summer;18(2): p103-5.

Al-Brahim N; Asa S.

Combined adrenal adenoma and myelolipoma in a patient with Cushing's syndrome: case report and review of the literature.

*Int J Urol* 2004; Jun;11(6): p416-8.

Hisamatsu H; Sakai H; Tsuda S; Shigematsu K; Kanetake H.

Myelolipoma within a non-functional adrenal cortical adenoma.

*Singapore Med J* 2007; Jul;48(7): pe200-2.

Ong K; Tan KB; Putti TC.

Catecholamine secreting adrenal myelolipoma.

*Indian J Med Sci* 2006; Aug;60(8): p331-3.

Tamidari H; Mishra AK; Gupta S; Agarwal A.

**Case No. 8, Accession No. 31534**

**April 2014**

Glendale - Adrenal cortical adenoma

Connecticut (Danbury Hospital) - Cortical adenoma

Delaware (Armed Forces Medical Examiner System) - Adrenal cortical adenoma

Georgia, Atlanta - Adrenal cortical adenoma

Illinois (Heartland Regional Medical Center) - Adrenal cortical adenoma

Kansas (Peterson Laboratory Services) - Adrenocortical adenoma

Michigan (University of Michigan) - Adrenal cortical adenoma

Oregon (Oregon Health & Science University) - Adrenal cortical adenoma

Puerto Rico (University of Puerto Rico) - Adrenocortical adenoma

Tennessee, Knoxville - Adrenocortical adenoma

Texas (Anderson Cancer Center) - Adrenal cortical adenoma

Texas, Lubbock - Adrenal cortical adenoma

Wisconsin (Medical Assessment & Cons, S.C.) - Adrenocortical adenoma

Australia (Royal Prince Alfred Hospital) - Adrenal cortical adenoma

Canada (Royal Alexandra Hospital) - Adrenal cortical adenoma

Canada (Pasqua Hospital) - Adrenal adenoma

Ireland (Connolly Hospital) - Adrenal adenoma

Saudi Arabia (King Khalid University Hospital) - Adrenal cortical adenoma  
Japan (Asahi General Hospital) - Adrenocortical carcinoma  
Japan (University of Yamanashi) - Cortical adenoma

**Case 8 - Diagnosis:**

Macronodular adrenocortical adenoma, adrenal

**Consultation:** Lester Thompson, MD: “Macronodular adrenocortical hyperplasia”

**Case 8 - References:**

ACTH-independent macronodular adrenal hyperplasia: imaging findings of a rare condition : A case report.  
*Abdom Imaging* 2008; Mar-Apr;33(2): p225-9.  
Verma A; Mohan S; Gupta A.

Cushing's syndrome secondary to ACTH-independent macronodular adrenal hyperplasia.  
*Arq Bras Endocrinol Metabol* 2007; Nov;51(8): p1226-37.  
Costa MH; Lacroix A.

Bilateral adrenal Cushing's syndrome: macronodular adrenal hyperplasia and primary pigmented nodular adrenocortical disease.  
*Endocrinol Metab Clin North Am* 2005; Jun;34(2): p441-58, x.  
Lacroix A; Bourdeau I.

A rare case of ACTH-independent macronodular adrenal hyperplasia associated with aldosterone-producing adenoma.  
*Intern Med* 2011;50(3): p227-32.  
Hayakawa E; Yoshimoto T; Hiraishi K; Kato M; Izumiyama H; Sasano H; Hirata Y.

Intraadrenal corticotropin in bilateral macronodular adrenal hyperplasia.  
*N Engl J Med* 2013; Nov 28;369(22): p2115-25.  
Louiset E; Duparc C; Young J; Renouf S; Tetsi Nomigni M; Boutelet I; Libe R; Bram Z; Groussin L; Caron P; Tabarin A; Grunenberger F; Christin-Maitre S; Bertagna X; Kuhn JM; Anouar Y; Bertherat J; Lefebvre H

Heredity and cortisol regulation in bilateral macronodular adrenal hyperplasia.  
*N Engl J Med* 2013; Nov 28;369(22): p2147-9.  
Lacroix A.

**Case No. 9, Accession No. 30644**

**April 2014**

Glendale - Adrenal cortical adenoma  
Connecticut (Danbury Hospital) - Adrenal hyperplasia  
Delaware (Armed Forced Medical Examiner System) - Aldosterone secreting adrenal cortical adenoma  
Georgia, Atlanta - Nodular cortical hyperplasia  
Illinois (Heartland Regional Medical Center) - Adrenal cortical adenoma  
Kansas (Peterson laboratory Services) - Adrenocortical carcinoma  
Michigan (University of Michigan) - Adrenal cortical adenoma  
Oregon (Oregon Health & Science University) - Adrenal cortical hyperplasia  
Puerto Rico (University of Puerto Rico) - Cortical hyperplasia  
Tennessee, Knoxville - Adrenocortical adenoma  
Texas (Anderson Cancer Center) - Adenoma  
Texas, Lubbock - Nodular hyperplasia  
Wisconsin (Medical Assessment & Cons, S.C.) - Adrenocortical neoplasm (aldosteronoma)  
Australia (Royal Prince Alfred Hospital) - Adrenal cortical adenoma  
Canada (Royal Alexandra Hospital) - Adrenal cortical adenoma  
Canada (Pasqua Hospital) - Adrenal adenoma

Ireland (Connolly Hospital) - Adrenal adenoma  
Saudi Arabia (King Khalid University Hospital) - Conn's syndrome, probably caused by an adenoma/cortical hyperplasia  
Japan (Asahi General Hospital) - Adrenocortical adenoma  
Japan (University of Yamanashi) - Cortical adenoma

**Case 9 - Diagnosis:**

Adrenal cortical adenoma with compensatory hyperplasia (likely Conn's syndrome), adrenal

**Consultation:** Lester Thompson, MD: "Adrenal cortical adenoma with compensatory hyperplasia, adrenal"

**Case 9 - References:**

Surgical outcomes following laparoscopic adrenalectomy for treatment of Conn's syndrome (primary hyperaldosteronism) between 1999 and 2006.  
*N Z Med J* 2010; Oct 15;123(1324): p50-6.  
Herd A; Harman R; Taylor E.

Adrenal histologic findings show no difference in clinical presentation and outcome in primary hyperaldosteronism.  
*Ann Surg Oncol* 2013; Mar;20(3): p753-8.  
Weisbrod AB; Webb RC; Mathur A; Barak S; Abraham SB; Nilubol N; Quezado M; Stratakis CA; Kebebew E.

Medical and surgical evaluation and treatment of adrenal incidentalomas.  
*J Clin Endocrinol Metab* 2011; Jul;96(7): p2004-15.  
Zeiger MA; Siegelman SS; Hamrahian AH.

Retroperitoneoscopic adrenalectomy in Conn's syndrome caused by adrenal adenomas or nodular hyperplasia.  
*World J Surg* 2008; May;32(5): p847-53.  
Walz MK; Gwosdz R; Levin SL; Alesina PF; Suttorp AC; Metz KA; Wenger FA; Petersenn S; Mann K; Schmid KW.

Clinical practice. The incidentally discovered adrenal mass.  
*N Engl J Med* 2007; Feb 8;356(6): p601-10.  
Young WF.

**Case No. 10, Accession No. 31637**

**April 2014**

Glendale - Pheochromocytoma  
Connecticut (Danbury Hospital) - Pheochromocytoma  
Delaware (Armed Forces Medical Examiner System) - Pheochromocytoma  
Georgia, Atlanta - Pheochromocytoma  
Illinois (Heartland Regional Medical Center) - Pheochromocytoma  
Kansas (Peterson Laboratory Services) - Pheochromocytoma  
Michigan (University of Michigan) - Pheochromocytoma  
Oregon (Oregon Health & Science University) - Pheochromocytoma  
Puerto Rico (University of Puerto Rico) - Pheochromocytoma rule out vascular lesion  
Tennessee, Knoxville - Pheochromocytoma  
Texas (Anderson Cancer Center) - Pheochromocytoma  
Texas, Lubbock - Pheochromocytoma  
Wisconsin (Medical Assessment & Cons, S.C.) - Adrenal pheochromocytoma  
Australia (Royal Prince Alfred Hospital) - Pheochromocytoma  
Canada (Royal Alexandra Hospital) - Pheochromocytoma  
Canada (Pasqua Hospital) - Pheochromocytoma

Ireland (Connolly Hospital) - Pheochromocytoma  
Saudi Arabia (King Khalid University Hospital) - Pigmented pheochromocytoma  
Japan (Asahi General Hospital) - Pheochromocytoma  
Japan (University of Yamanashi) - Pheochromocytoma

**Case 10 - Diagnosis:**

Pheochromocytoma, adrenal

**Case 10 - References:**

Prognostic indicators of malignancy in adrenal pheochromocytomas: clinical, histopathologic, and cell cycle/apoptosis gene expression analysis.

*Surgery* 2008; Jun;143(6): p759-68.

Strong VE; Kennedy T, et al.

Extra-adrenal pheochromocytoma involving the organ of Zuckerkandl.

*Surgery* 2008; Jun;143(6): p830-2.

Donahue J; Sahani D, et al.

Ectopic pheochromocytoma: does the rule of tens apply?

*World J Surg* 2007; Apr;31(4): p849-54.

Madani R; Al-Hashmi M, et al.

Cytologic features of malignant cystic pheochromocytoma: a case report.

*Acta Cytol* 2007; Mar-Apr;51(2): p200-2.

Niveditha SR; Suguna BV, et al.

Mixed cortical adenoma and composite pheochromocytoma-ganglioneuroma: an unusual corticomedullary tumor of the adrenal gland.

*Ann Diagn Pathol* 2011; Jun;15(3): p185-9.

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