

**California Tumor Tissue Registry's
Subscription "C" - Vol 7(1)
September, 2013**

"Pathology of Infectious Disease"

Case 1:

A 56 y/o man, having been recently treated for pneumonia, was found on followup x-ray to have a right lower lobe density.

Woodland Hills (Kaiser Permanente) - Coccidioidomycosis
Arkansas (The Lab of Path, PA) - Coccidioides immitis
Colorado (Metropolitan Pathologists) - Coccidiomycosis
Georgia, Atlanta - Yeast infection suggestive of Cryptococcus
Illinois, Oak Brook - Fibrosing granulomatous
Indiana, Carmel - Cocci
Kansas (Peterson Laboratory Service) - Coccidioides immitis
Maryland, Baltimore - Coccidiomycosis
Michigan (Detroit Medical Center) - Coccidioides
New Mexico, Albuquerque - Coccidiomycosis
Texas, Victoria - Coccidioides immitis
Canada (University of Sherbrooke) - Cocci
Hong Kong (Hong Kong Baptist Hospital) - Cryptococcal infection
India, Kochi - Coccidioides immitis of lung

Dx: Coccidioides immitis, lung

In situ hybridization for Coccidioides immitis 5.8S ribosomal RNA sequences in formalin-fixed, paraffin-embedded pulmonary specimens using a locked nucleic acid probe: a rapid means for identification in tissue sections.

Diagn Mol Pathol 2010 Jun;19(2): p99-104

Montone KT; Litzky LA; Feldman MD; Peterman H; Mathis B; Baliff J; Kaiser LR; Kucharczuk J; Nachamkin I

Coccidioidal meningitis: clinical presentation and management in the fluconazole era.

Comment In: RefSource:Medicine (Baltimore). 2011 Jan; 90(1):87/PMID:21200190

Medicine (Baltimore 2010 Sep;89(5): p251-84

Mathisen G; Shelub A; Truong J; Wigen C

Unusual forms of immature sporulating Coccidioides immitis diagnosed by fine-needle aspiration biopsy.

Arch Pathol Lab Med 2006 Jan;130(1): p97-100

Ke Y; Smith CW; Salaru G; Joho KL; Deen MF

Mediastinal mass in a 27-year-old man. Extrapulmonary Coccidioides immitis.

Arch Pathol Lab Med 2005 May;129(5): p699-700
Stephany JD; Lucero S; Walsh AF

False identification of *Coccidioides immitis*: do molecular methods always get it right?

J Clin Microbiol 2003 Dec;41(12): p5778-80
Millar BC; Jiru X; Walker MJ; Evans JP; Moore JE

Coccidioidomycosis osteomyelitis masquerading as a bone tumor. A report of 2 cases.

Acta Cytol 2003 Sep-Oct;47(5): p777-82
Caraway NP; Fanning CV; Stewart JM; Tarrand JJ; Weber KL

Case 2

A 27 year old woman presented with a nodule involving the right shoulder.

Woodland Hills (Kaiser Permanente) - Cutaneous coccidioidomycosis

Arkansas (The Lab of Path, PA) - Blastomycosis

Colorado (Metropolitan Pathologists) - Blastomycosis

Georgia, Atlanta - Blastomycosis

Illinois, Oak Brook - Blastomycosis

Indiana, Carmel - Blastomycosis

Kansas (Peterson Laboratory Service) - Blastomycosis

Maryland, Baltimore - Ulcer with abscess and granulomatous inflammation, possible fungal organisms identified

Michigan (Detroit Medical Center) - Blastomycosis

New Mexico, Albuquerque - North American blastomycosis

Texas, Victoria - Blastomycosis

Canada (University of Sherbrooke) - Blastomycosis

Hong Kong (Hong Kong Baptist Hospital) - Cutaneous tuberculosis

India, Kochi - Blastomycosis of shoulder

Dx: Blastomycosis, shoulder

Blastomyces associated with granulomatous inflammation in a bronchial lavage.

Diagn Cytopathol 2005 Dec;33(6): p399-400
Kapur U; Yong SL; Wojcik EM

Cutaneous blastomycosis: A clue for reassessing the recent diagnosis of pulmonary sarcoidosis.

Arch Dermatol 2006 Jun;142(6): p795-7
Auger I; Gagne E; Alain J; Pelletier R

Blastomycosis: The great pretender can also be an opportunist. Initial clinical diagnosis and underlying diseases in 123 patients.

Ann Diagn Pathol 2002 Jun;6(3): p194-203
Lemos LB; Baliga M; Guo M

Clinical and laboratory update on blastomycosis.
Clin Microbiol Rev 2010 Apr;23(2): p367-81
Saccante M; Woods GL

Blastomycosis: contributions of morphology to diagnosis: a surgical pathology, cytopathology, and autopsy pathology study.
Am J Surg Pathol 2007 Apr;31(4): p615-23
Taxy JB

Case 3

A 44 y/o man with HIV/AIDS and a past history of cryptococcal meningitis presented with two months of watery diarrhea. He was seropositive for CMV and upper endoscopy was performed to rule out CMV gastroenteritis. Immunostains for CMV were negative. Stool specimens were positive for cryptosporidium and negative for multiple other organisms, including AFB, isospora, microsporidia, and others.

Woodland Hills (Kaiser Permanente) - Cryptosporidiosis
Arkansas (The Lab of Path, PA) - Cryptosporidium
Colorado (Metropolitan Pathologists) - Cryptosporidium
Georgia, Atlanta - Cryptosporidiosis
Illinois, Oak Brook - Cryptosporidiosis
Indiana, Carmel - Cryptococci
Kansas (Peterson Laboratory Service) - Cryptosporidium
Maryland, Baltimore - Cryptosporidiosis
Michigan (Detroit Medical Center) - Cryptosporidiosis
New Mexico, Albuquerque - Cryptosporidiosis
Texas, Victoria - Cryptosporidiosis
Canada (University of Sherbrooke) -Cryptosporidia
Hong Kong (Hong Kong Baptist Hospital) - Intestinal cryptosporidiosis
India, Kochi - Cryptosporidiosis of GI tract

Dx: Cryptosporidiosis, GI tract

Images in HIV/AIDS. AIDS-associated intestinal cryptosporidiosis.
AIDS Read 2006 Aug;16(8): p403-4
Varnholt H; Connolly T; Dezube BJ; Pantanowitz L

Cryptosporidiosis in HIV-infected Venezuelan adults is strongly associated with acute or chronic diarrhea.
Am J Trop Med Hyg 2005 Jul;73(1): p54-7
Certad G; Arenas-Pinto A; Pocaterra L; Ferrara G; Castro J; Bello A; Nunez L

Epidemiology and clinical features of Cryptosporidium infection in immunocompromised patients.
Clin Microbiol Rev 2002 Jan;15(1): p145-54
Hunter PR; Nichols G

Cryptosporidiosis in the elderly population of the United States.

Clin Infect Dis 2009 Mar 15;48(6): p698-705
Mor SM; De Maria A; Griffiths JK; Naumova EN

Case 4

A 53 year old male was found to have a periorbital abscess.

Woodland Hills (Kaiser Permanente) - Mucormycosis
Arkansas (The Lab of Path, PA) - Mucormycosis
Colorado (Metropolitan Pathologists) - Mucormycosis
Georgia, Atlanta - Mucormycosis
Illinois, Oak Brook - Torulopsis
Indiana, Carmel - Mucormycosis
Kansas (Peterson Laboratory Service) - Mucormycosis
Maryland, Baltimore - Mucormycosis
Michigan (Detroit Medical Center) - Mucormycosis
New Mexico, Albuquerque - Mucormycosis
Texas, Victoria - Mucormycosis
Canada (University of Sherbrooke) - Mucormycosis
Hong Kong (Hong Kong Baptist Hospital) - Mucormycosis
India, Kochi - Mucormycosis

Dx: Mucormycosis, periorbital

A cluster of mucormycosis infections in hematology patients:
challenges in investigation and control of invasive mold infections
in high-risk patient populations.

Diagn Microbiol Infect Dis 2011 Sep;71(1): p72-80

Llata E; Blossom DB; Khoury HJ; Rao CY; Wannemuehler KA; Noble-Wang
J; Langston AA; Ribner BS; Lyon GM; Arnold KE; Jackson DR; Brandt
ME; Chiller TM; Balajee SA; Srinivasan A; Magill SS

Recent advances in the management of mucormycosis: from bench to
bedside.

Clin Infect Dis 2009 Jun 15;48(12): p1743-51

Spellberg B; Walsh TJ; Kontoyiannis DP; Edwards J; Ibrahim AS

Mucormycosis in chronic granulomatous disease: association with
iatrogenic immunosuppression.

J Allergy Clin Immunol 2009 Jun;123(6): p1411-3

Vinh DC; Freeman AF; Shea YR; Malech HL; Abinun M; Weinberg GA;
Holland SM

A common fungus, an unusual (and deadly) infection.

Am J Med 2011 Nov;124(11): p1023-4

Tan S; Aronowitz P

Cutaneous mucormycosis in an immunocompromised patient.

Lancet Infect Dis 2006 Aug;6(8): p536

Becker BC; Schuster FR; Ganster B; Seidl HP; Schmid I

Mucormycosis: a devastating fungal infection in diabetics.

J Coll Physicians Surg Pak 2005 Jan;15(1): p43-5

Rashid M; Bari A; Majeed S; Tariq KM; Haq I; Niwaz A

Usefulness of frozen section in rhinocerebral mucormycosis diagnosis and management.

Pathology 2003 Jun;35(3): p212-6

Hofman V; Castillo L; Betis F; Guevara N; Gari-Toussaint M; Hofman P

Case 5

A previously healthy man presented with an altered level of consciousness and with a clinical suspicion of meningitis vs encephalitis. He had been swimming in Lake Elsinore as he had been done many times before. He first started complaining of headaches decreased energy level. One day prior to admission, he had fevers with temperatures of 102 that did not resolve with tylenol or motrin. He also started having emesis but was able to keep down some pedialyte. In addition to viewing the glass slide, please play the video that was made from the wet mount!

Woodland Hills (Kaiser Permanente) - Naegleria fowleri; primary amebic meningoencephalitis

Arkansas (The Lab of Path, PA) - Naegleria fowleri

Colorado (Metropolitan Pathologists) - Naegleria

Georgia, Atlanta - Naegleria fowleri

Illinois, Oak Brook - Naegleria fowleri

Indiana, Carmel - Naegleria fowleri

Kansas (Peterson Laboratory Service) - Amoebic meningoencephalitis, Naegleria fowleri

Maryland, Baltimore - Amoeba infection

Michigan (Detroit Medical Center) - Amebae

New Mexico, Albuquerque - Amoebic meningoencephalitis due to Naegleria fowleri

Texas, Victoria - Naegleria fowleri

Canada (University of Sherbrooke) - Naegleria fowleri

Hong Kong (Hong Kong Baptist Hospital) - Amebiasis

India, Kochi - Naegleria fowleri

Dx: Naegleria fowleri, CSF fluid

Cerebrospinal fluid centrifuge analysis in primary amebic meningoencephalitis due to Naegleria fowleri. Arch Pathol Lab Med. 1985 Jul;109(7):668-71.

Pathologic quiz case: headache in an 8-year-old child. Primary amebic meningoencephalitis due to Naegleria fowleri.

Arch Pathol Lab Med 2004 Feb;128(2): pe33-4

Stephany JD; Pearl GS; Gonzalez OR

Amebae and ciliated protozoa as causal agents of waterborne zoonotic disease.

Vet Parasitol 2004 Dec 9;126(1-2): p91-120
Schuster FL; Visvesvara GS

PCR-based diagnosis of Naegleria sp. infection in formalin-fixed and paraffin-embedded brain sections.

J Clin Microbiol 2007 Feb;45(2): p564-7

Schild M; Gianinazzi C; Gottstein B; Muller N

A 22-year-old man with headache and stiff neck after a water skiing fall.

Chest 2009 Jan;135(1): p225-7

Jones K; Singhatiraj E; MacDougall R; Beaver TR; Nugent K

Case 6

A 44 y/o woman presented with an 8 cm axillary mass. She had a history of being scratched on the left arm by a cat. Approximately three months later she presented with left axillary lymphadenopathy. The largest node was sampled. A Warthin Starry stain was positive.

Woodland Hills (Kaiser Permanente) - Cat scratch disease

Arkansas (The Lab of Path, PA) - Cat scratch lymphadenitis

Colorado (Metropolitan Pathologists) - Bartonella henselae

Georgia, Atlanta - Cat scratch lymphadenitis

Illinois, Oak Brook - Cat scratch lymphadenitis

Indiana, Carmel - Cat scratch disease

Kansas (Peterson Laboratory Service) - Necrotizing lymphadenitis c/w Bartonella henselae

Maryland, Baltimore - Cat scratch disease

Michigan (Detroit Medical Center) - Cat scratch

New Mexico, Albuquerque - Cat scratch disease (Bartonella henselae)

Texas, Victoria - Cat scratch disease

Canada (University of Sherbrooke) - Cat scratch disease

Hong Kong (Hong Kong Baptist Hospital) - Cat scratch disease

India, Kochi - Cat scratch disease

Dx: Cat scratch disease

Combining cytomorphology and serology for the diagnosis of cat scratch disease.

Diagn Cytopathol 2011 Mar;39(3): p210-3

Youssef D; Shams WE; El Abbassi A; Moorman JP; Al-Abbadi MA

Cat-scratch disease of the head and neck in a pediatric population: surgical indications and outcomes.

Otolaryngol Head Neck Surg 2008 Sep;139(3): p358-63

Munson PD; Boyce TG; Salomao DR; Orvidas LJ

Beyond cat scratch disease: widening spectrum of Bartonella henselae infection.

Pediatrics 2008 May;121(5): p1413-25
Florin TA; Zaoutis TE; Zaoutis LB

Confirmation of diagnosis of cat scratch disease by immunohistochemistry.

Am J Surg Pathol 2006 Feb;30(2): p274-5
Cheuk W; Chan AK; Wong MC; Chan JK

Spectrum and treatment of cat-scratch disease.
Pediatr Infect Dis J 2004 Dec;23(12): p1161-2
Batts S; Demers DM

Cat-scratch disease: historic, clinical, and pathologic perspectives.

Am J Clin Pathol 2004 Jun;121 Suppl:S71-80
Lamps LW; Scott MA

Case 7

A 74-year-old man presented with worsening gastric pain, and a prior history of *Helicobacter pylori* infection. Two years earlier he had an endoscopic biopsy of the gastric body and antrum which revealed moderate acute and chronic inflammation consisting of a superficial mucosal infiltrate of lymphocytes, plasma cells, neutrophils and scattered eosinophils. A Giemsa stain showed numerous curved bacterial rods present within the gastric crypts and on the surface of the glands. He was treated with the standard triple therapy (omeprazole, metronidazole and clarithromycin) with resolution of dyspepsia. He now presented with a 4 to 5 month history of abdominal pain and anemia. Endoscopic studies revealed a large fundic mass. A biopsy was performed.

Woodland Hills (Kaiser Permanente) - *Helicobacter pylori*; diffuse large B-cell lymphoma

Arkansas (The Lab of Path, PA) - *Helicobacter pylori* associated lymphoma

Colorado (Metropolitan Pathologists) - Rhinosporidium

Georgia, Atlanta - *Helicobacter pylori* chronic gastritis; diffuse large B-cell lymphoma

Illinois, Oak Brook - MALT lymphoma

Indiana, Carmel - *Helicobacter pylori* associated Burkitts lymphoma

Kansas (Peterson Laboratory Service) - High grade lymphoma with *helicobacter pylori* infection

Maryland, Baltimore - High grade lymphoma arising in setting of *helicobacter pylori* infection

Michigan (Detroit Medical Center) - *Helicobacter*

New Mexico, Albuquerque - Chronic active gastritis (*helicobacter pylori*) and large cell lymphoma

Texas, Victoria - *Helicobacter pylori*

Canada (University of Sherbrooke) - Burkitt lymphoma with *helicobacter pylori*

Hong Kong (Hong Kong Baptist Hospital) - Malignant lymphoma associated with *helicobacter pylori*

India, Kochi - *Helicobacter pylori* associated Burkitts lymphoma

Dx: *H. pylori* assoc Burkitts lymphoma (Case presented as COTM June, 2011 Vol

13:9)

Helicobacter pylori eradication in gastric mucosa-associated lymphoid tissue lymphoma: Results of a 196-patient series.
Leuk Lymphoma 2006 Oct;47(10): p2110-4
Wundisch T; Mosch C; Neubauer A; Stolte M

Long-term results of anti-Helicobacter pylori therapy in early-stage gastric high-grade transformed MALT lymphoma.
J Natl Cancer Inst 2005 Sep 21;97(18): p1345-53
Chen LT; Lin JT; Tai JJ; Chen GH; Yeh HZ; Yang SS; Wang HP; Kuo SH; Sheu BS; Jan CM; Wang WM; Wang TE; Wu CW; Chen CL; Su IJ; Whang-Peng J; Cheng AL

Long-term persistence of molecular disease after histological remission in low-grade gastric MALT lymphoma treated with H. pylori eradication. Lack of association with translocation t(11; 18): a 10-year updated follow-up of a prospective study.
Ann Oncol 2005 Sep;16(9): p1539-44
Montalban C; Santon A; Redondo C; Garcia-Cosio M; Boixeda D; Vazquez-Sequeiros E; Norman F; de Argila CM; Alvarez I; Abaira V; Bellas C

Helicobacter pylori and MALT lymphoma.
Gastroenterology 2005 May;128(6): p1579-605
Farinha P; Gascoyne RD

A past history of gastric ulcers and Helicobacter pylori infection increase the risk of gastric malignant lymphoma.
Carcinogenesis 2006 Jul;27(7): p1391-7
Suzuki T; Matsuo K; Ito H; Hirose K; Wakai K; Saito T; Sato S; Morishima Y; Nakamura S; Ueda R; Tajima K

Case 8

A 12-year-old boy presented with a nasal mass. (The case was donated from a Kenyan missionary hospital. Additional history could not be obtained.)

Woodland Hills (Kaiser Permanente) - Rhinosporidiosis
Arkansas (The Lab of Path, PA) - Rhinosporidiosis
Colorado (Metropolitan Pathologists) - Rhinosporidium
Georgia, Atlanta - Rhinosporidiosis
Illinois, Oak Brook - Rhinosporidiosis
Indiana, Carmel - Rhinosporidiosis
Kansas (Peterson Laboratory Service) - Rhinosporidiosis
Maryland, Baltimore - Rhinosporidiosis
Michigan (Detroit Medical Center) - Rhinosporidiosis
New Mexico, Albuquerque - Rhinosporidiosis
Texas, Victoria - Rhinosporidiosis
Canada (University of Sherbrooke) - Rhinosporidiosis
Hong Kong (Hong Kong Baptist Hospital) - Rhinosporidiosis
India, Kochi - Rhinosporidiosis

Dx: Rhinosporidiosis

Diagnosis of disseminated rhinosporidiosis by fine needle aspiration cytology.

Acta Cytol 2006 Mar-Apr;50(2): p234

Mohanty RC; Khalkho J; Sahu A

Disseminated cutaneous rhinosporidiosis: diagnosis by fine needle aspiration cytology.

Acta Cytol 2006 Jan-Feb;50(1): p111-2

Pathak D; Neelaiah S

An erosive mass involving the nasal cavity and maxillary sinus: rhinosporidiosis.

Kulak Burun Bogaz Ihtis Derg 2004;13(5-6): p143-7

Keskin G; Ustundag E; Kacarozkara S; Keskin S

Nasal rhinosporidiosis.

J Natl Med Assoc 2008 Jun;100(6): p713-5

Echejoh GO; Manasseh AN; Tanko MN; Ogala-Echejoh SE; Silas OA;

Nimkur TL; Mandong BM

Nasal rhinosporidiosis in humans: new interpretations and a review of the literature of this enigmatic disease.

Med Mycol 2011 Apr;49(3): p311-5

Das S; Kashyap B; Barua M; Gupta N; Saha R; Vaid L; Banka A

Rhinosporidium seeberi in nasal smears.

Diagn Cytopathol 2011 Aug;39(8): p593-4

Choudhury M

Case 9

A 49 year old man with AIDS was found to have massive lymphadenopathy. This sample is from a cervical lymph node.

Woodland Hills (Kaiser Permanente) - Histoplasmosis

Arkansas (The Lab of Path, PA) - Histoplasmosis

Colorado (Metropolitan Pathologists) - Histoplasmosis

Georgia, Atlanta - Histoplasmosis

Illinois, Oak Brook - Histoplasmosis

Indiana, Carmel - Histoplasmosis

Kansas (Peterson Laboratory Service) - Histoplasmosis

Maryland, Baltimore - Histoplasmosis

Michigan (Detroit Medical Center) - Histoplasmosis

New Mexico, Albuquerque - Cryptococcosis

Texas, Victoria - Histoplasmosis

Canada (University of Sherbrooke) - Lymphadenitis with histoplasmosis

Hong Kong (Hong Kong Baptist Hospital) - Fungal infection, histoplasmosis

India, Kochi - Histoplasmosis of lymph node

Dx: Histoplasmosis, cervical LN

Bilateral adrenal histoplasmosis in immunocompetent patients.

Diagn Cytopathol 2011 Apr;39(4): p294-6

Rana C; Krishnani N; Kumari N

Isolated central nervous system histoplasmosis in an immunocompetent patient: 53-month hiatus to diagnosis and treatment.

J Neurovirol 2010 Nov;16(6): p472-4

Berger JR; Greenberg RN

Adrenal histoplasmosis.

Diagn Cytopathol 2010 Mar;38(3): p188-9

Fitzhugh VA; Maniar KP; Kim MK; Chen H; Schainker BA

Necrotizing cervical lymphadenitis due to disseminated Histoplasma capsulatum infection.

Eur J Clin Microbiol Infect Dis 2005 Aug;24(8): p574-6

Meijer JA; Sjogren EV; Kuijper E; Verbist BM; Visser LG

Unusual manifestations of histoplasmosis.

Diagn Microbiol Infect Dis 2004 Sep;50(1): p33-41

Thompson GR; La Valle CE; Everett ED

Histoplasmosis associated with exploring a bat-inhabited cave in Costa Rica, 1998-1999.

Am J Trop Med Hyg 2004 Apr;70(4): p438-42

Lyon GM; Bravo AV; Espino A; Lindsley MD; Gutierrez RE; Rodriguez I; Corella A; Carrillo F; McNeil MM; Warnock DW; Hajjeh RA

Outbreak of histoplasmosis among industrial plant workers--Nebraska, 2004. MMWR Morb Mortal Wkly Rep 2004 Nov 5;53(43): p1020-2

Case 10

A 31 y/o woman was in good health until four days prior to admission when she became fatigued and had a temperature of 102 degrees. On the next three days, she had temperatures to 103-105 degrees that were associated with severe chills. She had an extensive travel history and had been to Greece approximately 9 years previously. She ate cooked goat meat but denied drinking any milk while there. She drank mostly water and soft drinks and denied eating any raw meat, raw seafood or unpasteurized milk. A splenectomy revealed an 810 gram, 21.8 x 12.5 cm spleen which had a mild prominence of the white pulp.

Woodland Hills (Kaiser Permanente) - Leishmaniasis

Arkansas (The Lab of Path, PA) - Leishmaniasis

Colorado (Metropolitan Pathologists) - Toxoplasmosis

Georgia, Atlanta - Malaria

Illinois, Oak Brook - Histoplasmosis

Indiana, Carmel - Leishmaniasis

Kansas (Peterson Laboratory Service) - Mycobacterium avium complex

Maryland, Baltimore - Leishmaniasis

Michigan (Detroit Medical Center) - Leishmania

New Mexico, Albuquerque - Melioidosis

Canada (University of Sherbrooke) - Leishmaniasis

Hong Kong (Hong Kong Baptist Hospital) - Foamy macrophages in spleen, intracellular micro-organisms

India, Kochi - Leishmaniasis of spleen

Dx: Leishmaniasis, spleen

Visceral leishmaniasis, or kala azar (KA): high incidence of refractoriness to antimony is contributed by anthroponotic transmission via post-KA dermal leishmaniasis.

J Infect Dis 2006 Aug 1;194(3): p302-6

Singh R; Kumar D; Ramesh V; Negi NS; Singh S; Salotra P

Comparison of PCR assays for diagnosis of cutaneous leishmaniasis.

J Clin Microbiol 2006 Apr;44(4): p1435-9

Bensoussan E; Nasereddin A; Jonas F; Schnur LF; Jaffe CL

Sandflies and leishmaniasis.

CM - Comment On: RefSource:Lancet. 2005 Oct 29-Nov 4; 366(9496):1561-77/PMID:16257344

Lancet 2006 Jan 14;367(9505): p112

Croft AM; Taylor NA; Rodenhurst KE

Leishmania--a parasitized parasite.

N Engl J Med 2011 May 5;364(18): p1773-4

Scott P

Images in clinical medicine. Cutaneous leishmaniasis.

N Engl J Med 2010 Feb 11;362(6): pe15

Malekpour M; Esfandbod M

