AN IMAGE DATABASE FOR ARCHIVED PRESENTATION CASES

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Traditional ways of storing images

- Kodachromes
- Prints & negatives
- Glass slides
Implementation of a centralized database

Aim of the software to: (a) enable users to store digital images and text & manipulate the images; (b) to access the archive at later date

Provide internet access to mixed text/image database and integrate it in the departmental website
January 2001 Departmental Newsletter - Under the Scope now online

The goal of the Department of Pathology and Laboratory Medicine (DPALM) is to combine the traditional values of academic pathology (excellence in service, teaching and research) with innovative approaches to the new challenges of medicine and science in order to become one of the elite departments that define a model of excellence in the changing world of medicine.

DPALM is part of the Medical School of the University of Texas-Houston Health Sciences Center. It is located within the Texas Medical Center which is the largest medical center in the world consisting of 39 not-for-profit medical institutions.

DPALM consists of 38 full time faculty as well as part time, joint and volunteer faculty in addition to support staff, 22 residents and 15 graduate students in fully accredited programs.

Learn more about our department.

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Education and Training

Medical Students
- Residency Training
- Graduate Program in Molecular Pathology
- Web-based Programs for Pathology Teaching
- Cytopathology training

UTH Medical School
- Graduate Medical Education Office
- UTH Graduate School of Biomedical Sciences

The department’s outstanding, fully accredited residency program offers 26 positions for combined anatomic/clinical pathology training at PG levels 1 through 5. Residents in anatomic and clinical pathology work in the Hermann, Hermann Children’ and LBJ hospitals as well as on rotations with the Harris County Medical Examiner, St. Lukes Episcopal Hospital, and the M.D. Anderson Cancer Center. DPALM sponsors a program in molecular pathology jointly with pathologists at the M.D. Anderson Cancer Center. Training in medical informatics is coordinated through the Department of Health Informatics whose chair, Dr. Smith, is a pathologist. The Department also sponsors an extensive web based continuing education program, MEdIC. Hermann Hospital is part of the Memorial-Hermann Healthcare System which is a not-for-profit system consisting of 10 hospitals in metropolitan Houston.
## Browsing all the Archived CP Cases

Note: Click on any Case Number to get a full record for that case

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>Pneumocystis carinii in BAL fluid</td>
</tr>
<tr>
<td>0002</td>
<td>Mucormycosis in blood vessel</td>
</tr>
<tr>
<td>0004</td>
<td>Cryptosporidium in stool</td>
</tr>
<tr>
<td>0005</td>
<td>Histoplasma in brain abscess- PAS</td>
</tr>
<tr>
<td>0006</td>
<td>Histoplasma in brain abscess- GMS</td>
</tr>
<tr>
<td>0007</td>
<td>Babesiosis</td>
</tr>
<tr>
<td>0008</td>
<td>HIV bone marrow</td>
</tr>
<tr>
<td>0008-1</td>
<td>Mastocytosis</td>
</tr>
<tr>
<td>0008-2</td>
<td>Mastocytosis-higher magnification</td>
</tr>
<tr>
<td>0008-3</td>
<td>Mastocytosis-Giemsa</td>
</tr>
<tr>
<td>0009-1</td>
<td>Anaplastic large cell lymphoma</td>
</tr>
<tr>
<td>0009-2</td>
<td>Anaplastic large cell lymphoma-CD30</td>
</tr>
<tr>
<td>0009-3</td>
<td>Anaplastic large cell lymphoma-Bone marrow</td>
</tr>
<tr>
<td>0010</td>
<td>Megaloblastic changes</td>
</tr>
<tr>
<td>0011</td>
<td>India ink for Cryptococcus</td>
</tr>
<tr>
<td>0012-1</td>
<td>Cryptococcus in bone marrow</td>
</tr>
<tr>
<td>0012-2</td>
<td>Cryptococcus in bone marrow</td>
</tr>
<tr>
<td>0013-1</td>
<td>Plasmodium Vivax</td>
</tr>
<tr>
<td>0013-2</td>
<td>Plasmodium Vivax</td>
</tr>
<tr>
<td>0014</td>
<td>Pneumococcal infection</td>
</tr>
<tr>
<td>0015</td>
<td>AML M3, Hypogranular Variant</td>
</tr>
<tr>
<td>0016</td>
<td>Hereditary spheroctysis</td>
</tr>
<tr>
<td>0018</td>
<td>AML, hypogranular bone marrow</td>
</tr>
</tbody>
</table>
Case Number: 0001

Image Location: PathImage/0001.jpg

Diagnosis: *Pneumocystis carinii* in BAL fluid

Additional Data: 48/F. HIV positive. Multiple cysts of *Pneumocystis carinii* within fluffy alveolar casts.

SNOMED Code:

Author: Deepali Gupta

Date: 9/20/2000
Case Number: H-95-207

Image Location: PathImage/H-95-207.jpg

Diagnosis: Metastatic small cell carcinoma

Additional Data: 54 year male with lesion at carina on CT scan. Bone marrow was done for thrombocytopenia. The biopsy shows metastatic carcinoma in large sheets and nests, lacking glandular or squamous differentiation.

SNOMED Code:

Author: Deepali Gupta

Date: 10/3/2000
Case Number: 3044

Image Location: PathImage/3044.jpg

Diagnosis: Hereditary elliptocytosis

Additional Data: A finding of more than 20% elliptocytes in the peripheral blood is seen in clinically, genetically and morphologically heterogeneous group of hereditary elliptocytosis.

SNOMED Code:

Author: Deepali Gupta

Date: 9/20/2000
Case Number: 2060

Image Location: PathImage/2060.jpg

Diagnosis: AML-M3

Additional Data: multiple Auer-rods evident

SNOMED Code:

Author: Sang Yu

Date: 12/21/00

![Image of hematopoietic cells with multiple Auer rods](PathImage/2060.jpg)
CP Cases: Find Cases with a given Diagnosis

Enter a key word then click the "Find" button:

Diagnosis: lymphoma  Find

Archived CP Cases Home Page
CP Cases: Find Cases with a given Diagnosis

The following matches were found:
(To view full image, put cursor on thumb-nail image, click the right mouse button and choose View Image)

Case Number: 4074

Image Location: PathImage/4074.jpg

Diagnosis: Hodgkin's Lymphoma

Additional Data: 22 Year Male with Hodgkin's disease Stage IV. The biopsy is hypercellular and is diffusely infiltrated by Hodgkin's disease. The infiltrate is comprised of Reed Sternberg cells, eosinophils, plasma cells and lymphocytes. There is diffuse increase in fibroconnective tissue.

SNOMED Code:

Presenter(s): Deepali Gupta

Conference Date: 9/19/2000

Case Number: 2070

Image Location: PathImage/2070-1.jpg

Diagnosis: Burkitt's Lymphoma

Additional Data: The bone marrow aspirate shows several lymphoma cells. The cells have coarse nuclear chromatin, 1-3 nucleoli, and deeply basophilic cytoplasm containing several sharply defined clear vacoules. The morphology and immunophenotype of small non-cleaved lymphoma is identical to ALL-L3.

SNOMED Code:
Structure

- Client-server module
  - MS SQL Server 7
  - File server
- Web-based module
  - Microsoft internet information server
Diagram Showing the Client-Server Setup for the Management Module:

**Client-Server Setup for Image Files of CP Cases**

**CLIENT:**
- Windows workstation (inside or outside DPALM network)
- VB6 program (fat-client)
- Set DSN for database in "Hawk" server
- Map S drive containing images

**SQL Server:** "Hawk"
- Database:
  - Tables:
  - Image location:
    - S:\PathImage\xx.png

**File Server:** a shared drive
- Retrieve image:
  - S:\PathImage\xx.png
Case Number: 4027

Image Location: PathImage/4027.jpg

Diagnosis: Bone marrow granuloma

Additional data: 51/M. HIV and HCV pos., chest X ray: miliary TB. Bone marrow is hypercellular for age (80%). Multiple necrotizing granulomas are present. The AFB stain was positive. GMS was negative.

SNOMED: 

Author: Deepali Gupta

Date: 9/18/2000

View Image

Double-click on folder to open image files in Explorer
Sources of cases

- Study sets
- Interesting cases during sign-out
- Telepathology conference between LBJ & Hermann Hospital twice weekly
Advantages and uses

- Study set material
- Easy storage and retrieval of rare and interesting cases
- Index for study boxes
- Images can be directly downloaded for presentations as examples or publication
Conclusion

• A prototype image database has been successfully designed and implemented for archiving digital images.
• The web module of this database allows for access to images using a web browser.
• The image database has been used in our department to archive interesting cases & cases from teleconference.
Future improvements

• Index the database
• More than one image for each case
• Image quality