

# Telepathology, Can it Help Overcome Limitations in Capacity?

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# Problems of Pathology in Low Resource Countries

- Can be overcome/alleviated by telepath:  
Professional Issues
  - Isolation, little opportunity for consultation
  - Difficult access to continuous education
  - Poor laboratory techniques
  - Lack of adequately trained laboratory staff
- Might be indirectly alleviated by telepath:  
Political issues
  - Low professional status
  - Lack of support from hospital managements and clinical colleagues
  - Low salaries

# SOME DATA FROM PNG

Courtesy I.Garbett PNG

Turn around times for pathology samples at Port Moresby Hospital

Year	MeaTAT (day)	Number of samples
1997	23	229
2007	115	240

Retrospective study of the management of head and neck malignancy at Goroka Base Hospital, PNG years 2002-2006

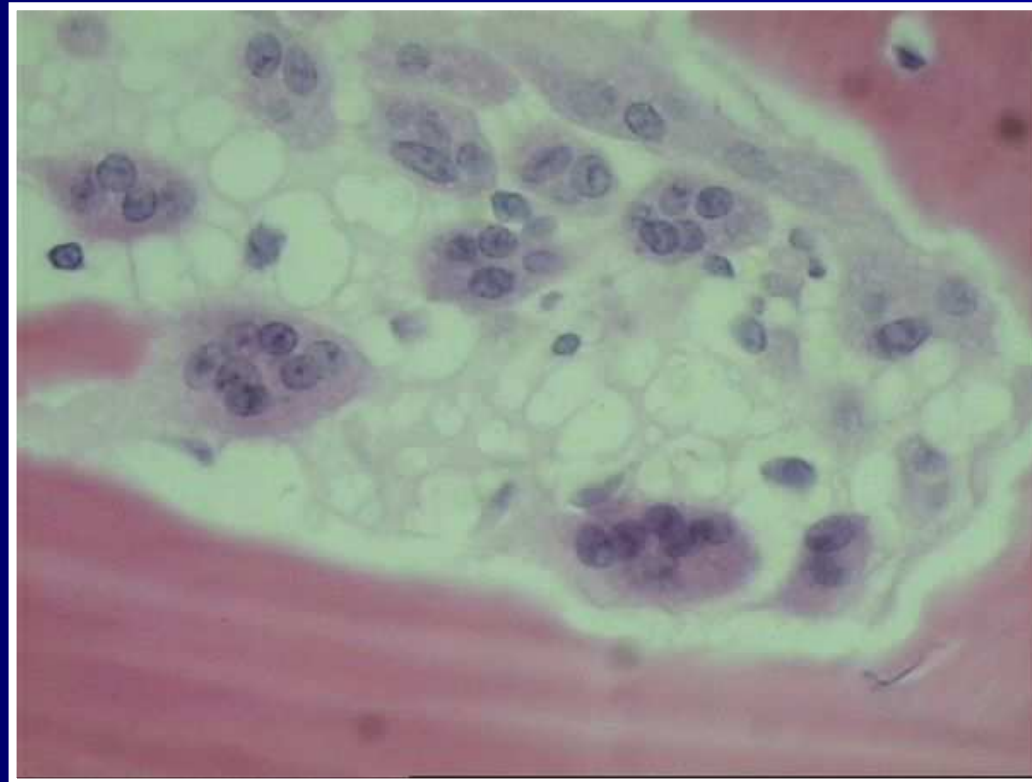
Number of patients	% patients pre-operative histology unavailable	Average waiting time for histology	% patients post-operative histology confirms malignancy	% patients whose tumour became inoperable in waiting time	% error of clinical diagnosis
1000	98.5	4-5 months	95	3	5

# **„iPath“ a multifunctional software**



# „iPath“- Options Diagnosis

- A. Pathologist on site
- B. Simple histo/cyto lab no pathologist onsite



# How can Telediagnosis increase efficiency in pathology ?

- Reduction of turn around time
- Reliability of diagnoses
- Increasing the credibility of local pathologists

## ■ Pitfalls for diagnosis

- Main limiting factor: poor tissue processing
- Minor limiting factor: Sampling error (macro and micro)

## ■ Results of Quality Assessments

- 85% (minor diagnostic discrepancies excluded)  
NRH, Honiara, Solomons` Islands (own unpublished data)
- 90% SHCH, Phnom Penh, Cambodia (unpublished data)
- 96% S.Desai, Tata Hosp, Mumbai India, Telehealth in the Developing World, ed:R.Wootton 2009

# Online Teaching Combined: iPath/Skype/RAFT\*

- Consultations or interactive case discussions
  - Cases submitted for diagnosis
  - Selected teaching cases
- Lectures, simultaneously distributed to a variety of places
- Pool of teaching material for mutual use
- Wikipedia like compendium for „good laboratory practice“

\* Reseau en Afrique Francophone pour la Telemedicine

## **S.Silverberg: Surgical Pathology Preface to the first edition 1989**

We speak about the loneliness of a long distance runner,  
but there may be no one lonlier than a surgical pathologist working solo.....

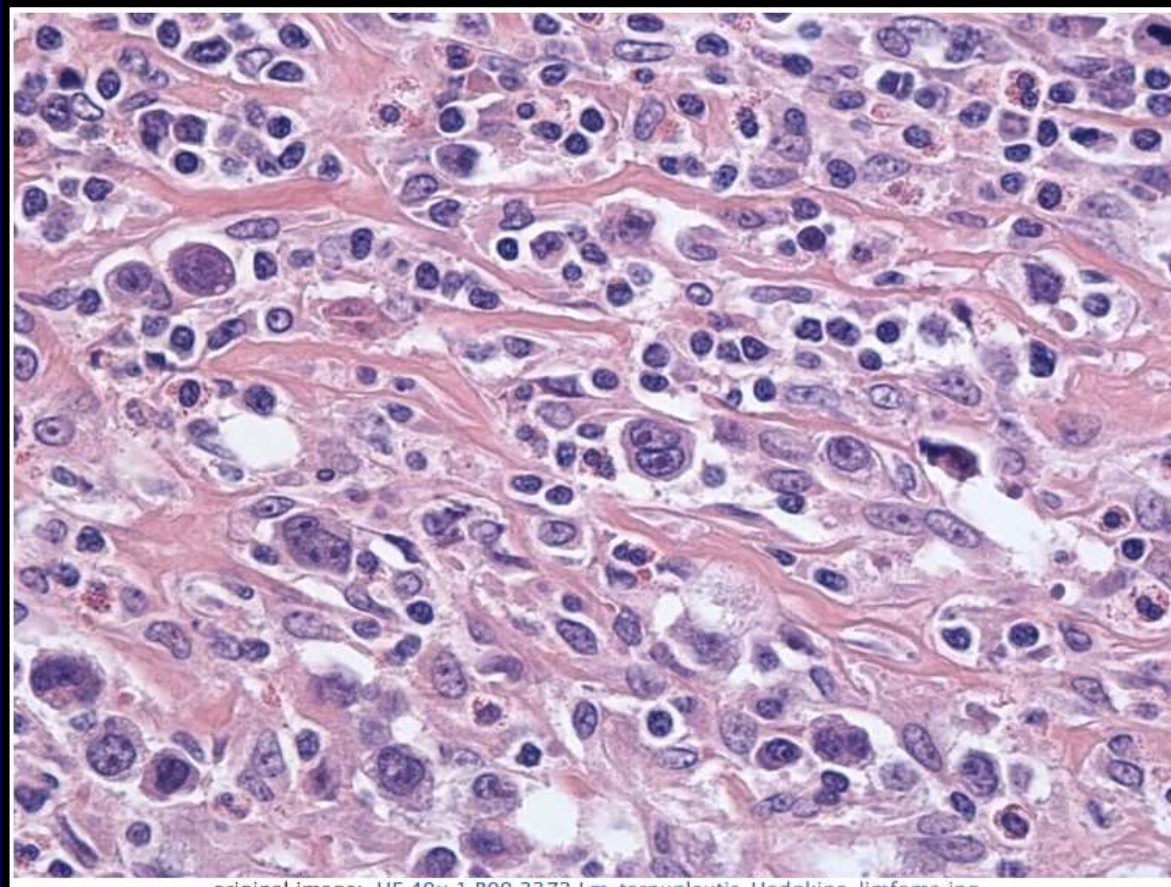
***Easy access to consultation is a prerequisite for accurate diagnosis and accordingly for optimal patient care***

# Consultations

## Tele-hematopathology in iPath

### Case submitted by U.Mickey, Lithuania

- mediastinal mass



# Interactive Discussion of a Consultation Case

**Mueller-  
Hermelink**

2009-02-22 16:48

I would also favour Dr. Porwits point : There are areas with features of mediastinal Large B cell lymphoma ( I have seen a case with a lymph node involvement where half of the node was PMBL and the other half classical HL )This should be documented by CD23 abd P63 staining as well as CD 20 ( in view of the therapeutic implications. The Who classification ( 2008) has this category of Malignant lymphoma unclassified with features of DLBCL ( PMBL) and classical HL.The CD 45 stain ,however, appears to be negative on the tumour cells, which could be an argument for a tumor cells rich HL . Therefore further immunostains should solve the case

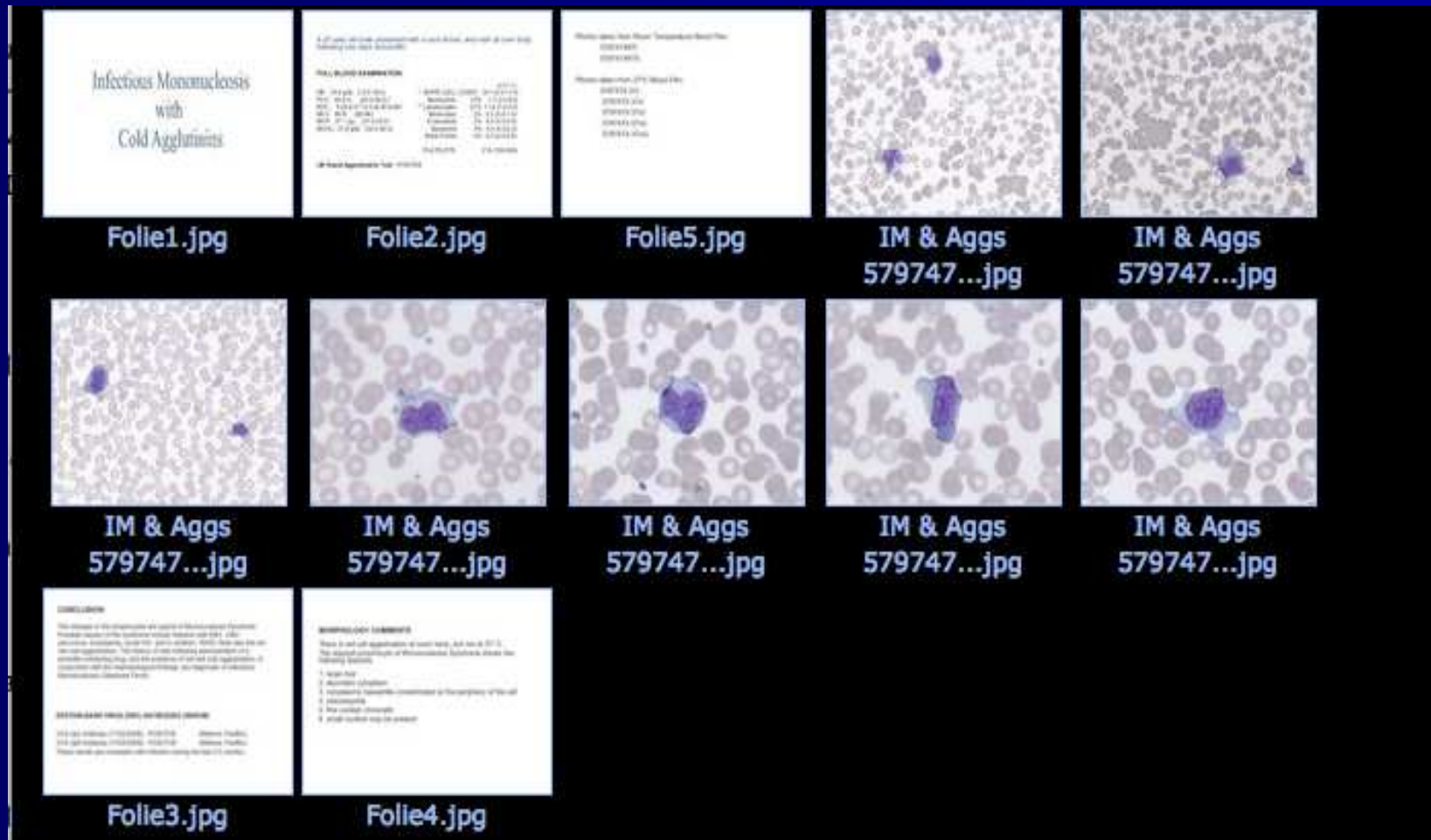
**torlakovic**

2009-03-17 18:46

My differential is between PMBL and unclassifiable lesion (see below). What is presented here is not perfect for the "B-cell lymphoma, unclassifiable, with features intermediate between DLBCL and cHL" because of the age, sex, and lack of CD15 and/or EBV. I wonder if this is primarily lymph node disease or extranodal disease. If we want to keep the above category clean, this case may be "true unclassifiable". Some features favor PMBL but the lack of CD20 and CD45 may not be compatible with this diagnosis. If this is primarily nodal disease and there is also bone marrow involvement, the lesion is unlikely PMBL. On the other hand, if there is dissemination to distant extranodal sites (GI, kidney, other), that would suggest again the diagnosis of PMBL. If you can demonstrate Ig (either surface or cytoplasmic), both above suggested diagnosis and also cHL, would not be correct. I wonder if you could do HHV-8?

» [Add comment](#)

# Slide show function in „iPath“ for power point presentations



# Complementary use of „onsite and online“

- Onsite: help to solve problems telepath alone cannot solve
  - Select „Partner centers“ in an ongoing partnership with an institute from a resource rich country on longterm basis (5 years)
    - Advice in organisation, improvement of infrastructure, relations with hospital management and clinical colleagues, improving the status of pathology
    - **Encouraging the use of telepathology**

- Online

- For continuous contact with partner centers after visits

- Diagnosis and Teaching

- Case related teaching

- Theoretical basis for pathologists and laboratory staff

- Creating a pool of suitable teaching material

- Close collaboration with local pathologists
- Collaboration with local Divisions of the IAP or other local organisations
- Active participation of local pathologists in teaching activities

# Thanks to the Team of the Department of Pathology University of Basle

