



- **Name:** Dr. Khin Saw Aye
- **Current Position:** Deputy Director General, Department of Medical Research
Senior Consultant Pathologist, Clinical Laboratory, Asia Royal
Hospital and Pun Hlaing Siloam International Hospital, Yangon,
Myanmar
- **Country:** The Republic of the Union of Myanmar
- **Educational Background:**
 - (1) M.B., B.S (Yangon), University of Medicine-1, 1984.
 - (2) M.Med.Sc.(Path:), University of Medicine-1, 1995.
 - (3) Ph.D. (Path:), University of Medicine-1, 2006.
 - (4) FRCP (Glasg), Royal College of Physicians and
Surgeons of Glasgow, UK, Feb 2016.
- **Professional Experiences:** As a scientist I have been joining to Department of Medical
Research since 1992. I have involving the following research projects;
 - Detection of Drug Resistant *Mycobacterium Leprae* and Molecular epidemiology;
genotyping of leprosy in Myanmar,
 - Molecular diagnosis of extrapulmonary tuberculosis (tuberculous pleural effusion,
lymphadenitis and TB meningitis), Genotyping and DNA sequencing of drug resistant
tuberculosis in Myanmar
 - Study on Immuno-Pathology of Dengue Haemorrhagic Fever and localization of dengue viral
infection in human tissues, Dengue Population Genetics Program
 - Cervical cytology screening for early detection of Cancer Cervix in Myanmar, Human
Papilloma Virus Genotypes associated with cervical Cancer in Myanmar
 - Nationwide survey on Prevalence of Hepatitis B and C in Myanmar, Phase I clinical trial of
Hepatitis B vaccine (China)
 - Implementation pilot study; the application of telemedicine as a tool for population-based
cancer registry in Hlegu Township, Yangon Region, Myanmar.
- **Professional Organizations** International collaborations are;
 - WHO Tropical Disease Research project
 - Leprosy Research Institute, National Institute of Infectious Diseases, Japan,
 - Dengue Vaccine Initiative, International Vaccine Institute, Korea
 - Mahidol University, Thailand,
 - NIH, USA,
 - McMaster University, Canada,
 - Hokkaido University, Japan
 - Clinton Health Assistant Initiative, Myanmar.
- **Main Scientific Publications:**
 1. **Khin Saw Aye**, Soe Soe, Queuche.F and Aung Htay. Correlation between Immunofluorescence Assay
(IFA) positivity and malaria endemicity in Myanmar. *Myanmar Health Sciences Research Journal*.
1998; 10(3): 139-142.



3. **Khin Saw Aye**, Soe Soe, Aung Htay and Than Swe. ABO blood groups and susceptibility to malaria. *Myanmar Health Sciences Research Journal*. 2000; 12(1-3): 52-53.
4. Ne Win, **Khin Saw Aye**, Hauk Kyng, Shigeru Okada, Kazuhisa Taketa & Takashi Akiyama Haemoglobinopathies, Iron overload and chronic viral hepatitis in patients with hepatocellular carcinoma in Myanmar. *ASIAN Pacific Journal of Cancer Prevention*. Vol: 1, No.2, 2000, p 127-130.
5. Soe Soe, **Khin Saw Aye**, Htay Aung, Nay Win, Tin Aung Than Swe, Christian Roussillon, Jean Louis, and Pirre Druille. Premunition against *Plasmodium falciparum* in a malaria hyperendemic village in Myanmar. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. 2001; 95, p81-84.
6. **Khin Saw Aye**, Soe Soe, Nyan Htain Linn, Than Than Htwe, Ne Win and Thaug Hla. Placental malaria: Pathological classification. *J. of Myanmar Military Medicine*. 2001 March. Vol. 007, No. 1; 1-5.
7. Soe Soe, **Khin Saw Aye**, Michael Theisen, Christian Roussillon, and Pierre Druilhe. Association between protection against clinical malaria and antibodies to Merozoite Surface Antigens in an area of hyperendemicity in Myanmar: Complementarity between responses to Merozoite Surface Protein 3 and the 220-Kilodalton Glutamate-Rich Protein. *Infection and Immunity*. 2004 January, Vol.72, No. 1; 247-252.
8. **Khin Saw Aye**, Yin Thet Nu Oo, and Kyaw Kyaw. Detection of *Mycobacterium leprae* by Polymerase Chain Reaction (PCR) in nasal swabs of patients and their contacts. *Myanmar Health Sciences Research Journal*. 2005; 17 (1): 1-5.
9. **Khin Saw Aye**, Yin Thet Nu Oo, Ei Mon Thet, Kyi Kyi Aye, Kyaw Kyaw and Tin Mg Tsoh. Tumour Necrosis Factor-Alpha, Interlukin-10 and Interferon-Gamma in Leprosy. *Myanmar Health Sciences Research Journal*. 2005; 17 (2):62-64.
10. Ne Win, Aye Aye Lwin, Myat Mon Oo, **Khin Saw Aye**, Soe Soe and Shigeru Okada. Hemoglobin E Prevalence in Malaria-Endemic Villages in Myanmar. *Acta Med. Okayama*. 2005; 59 (2): 63-66.
11. **Khin Saw Aye**. Use of Molecular Techniques for Leprosy Research at Department of Medical Research (Lower Myanmar). *MMA, Society of Pathology, Bulletin*. 2005; 1 (2): 1-14.
12. **Khin Saw Aye**, Yin Min Htun, Aye Aye Win, Tin Zar Maw and Kyaw Kyaw. Evaluation of Polymerase Chain Reaction (PCR) Amplification of *Mycobacterium leprae* in Biopsy Specimens from Leprosy Patients. *Myanmar Health Sciences Research Journal*. 2006; 18 (1):21-25.
13. **Khin Saw Aye**, Aye Aye Win, Tin Zar Maw, Kyaw Kyaw and Khine San Yin. Comparison of Polymerase Chain Reaction, Immunohistochemistry and Conventional Histopathology in the Diagnosis of Leprosy in Myanmar. *Myanmar Health Sciences Research Journal*. 2006; 18 (1): 34-40.
14. Kyaw Kyaw and **Khin Saw Aye**. A case of Multi-drug Resistant Leprosy – Relapse or Re-infection? *Myanmar Journal of Current Medical Practice*. 2006; 10 (4): 41-43.
15. **Khin Saw Aye**, Khin Myat Tun, Yin Min Htun, Yin Thet Nu Oo, Tin Zar Maw and Lwin Lwin Moe. Aldehyde test (Formol-Gel test) in the diagnosis of Kala-azar (Visceral leishmaniasis). *Myanmar Health Sciences Research Journal*. 2006; 18 (2): 64-66.
16. **Khin Saw Aye**, Yin Thet Nu Oo, Kyaw Kyaw, Masanori Matsuoka and Masanori Kai. Molecular Detection of Dapsone Resistant *Mycobacterium leprae* in Myanmar. *Myanmar Health Sciences Research Journal*. 2006; 18 (3):122-127.
17. **Khin Saw Aye**, Yin Thet Nu Oo, Kyaw Kyaw and Masanori Matsuoka. Genotyping of *Mycobacterium leprae* on the Basis of the Polymorphism of TTC Repeats for Analysis of Leprosy Transmission. *Myanmar Health Sciences Research Journal*. 2007; 19 (1):6-12.
18. Masanori Matsuoka, Teky Budlayan, **Khin Saw Aye**, Kyaw Kyaw, Esterlina Virtudes Tan, Eduardo Dela Cruz, Robert Gelber, Paul Saunderson, Victoria Balagon, Vijaykumar Pannikar. The frequency of drug resistance mutations in *Mycobacterium leprae* isolates in untreated and relapsed leprosy patients from Myanmar, Indonesia and the Philippines, *Lepr Rev*. 2007; 78, 343-352.
19. **Khin Saw Aye** and Hlaing Myat Thu. Pathogenesis of Dengue Viral infection. *Myanmar Journal of Current Medical Practice*. 2008; 12 (2): 43-48.
20. Masanori Matsuoka, **Khin Saw Aye**, Kyaw Kyaw, Esterlina Virtudes Tan, Ma Victoria Balagon, Paul Saunderson, Robert Gelber, Masanao Makino, Chie Nakajima and Yasuhiko Suzuki. A novel method to simply detect mutations conferring drug resistance in *Mycobacterium leprae*, based on a DNA microarray, and its applicability in developing countries. *Journal of Medical Microbiology*. 2008; 57, 1213-1219.

- Khin Saw Aye, Aye Aye Win, Khin Than Maw, Kyaw Kyaw Suzuki. Dot Blot Hybridization method for rapid detection of drug-resistant *Mycobacterium tuberculosis* complex in Myanmar. *Myanmar Health Sciences Research Journal*. 2008; 20 (2): 105-110.
22. **Khin Saw Aye**, Ne Win, Kyaw Zin Wai, Kyaw Moe, Sanyasupannichnant, Prida Malasit and Scott Halstead. Immunohistopathology of liver in autopsy cases of dengue shock syndrome. *Myanmar Health Sciences Research Journal*. 2008; 20 (2): 95-100.
 23. **Khin Saw Aye**. Rapid diagnosis of tuberculous meningitis. *DMR Bulletin*, September 2009: p 5.
 24. **Khin Saw Aye**. Molecular diagnosis of Leprosy. *DMR Bulletin*, January 2010: p 5.
 25. **Khin Saw Aye**, Ne Win, Kyaw Zin Wai, Kyaw Moe, Sanya Sukpanichnant, Prida Malasit and Scott B Halstead. Dengue Viral Antigen and RNA Localization in Naturally Infected Human Tissues by Immunohistochemistry and In Situ Hybridization. *Myanmar Health Sciences Research Journal*. 2010: 22 (2): 69-76.
 26. **Khin Saw Aye**, Ne Win, Kyaw Zin Wai and Scott B Halstead. Pathologic study of a fatal case of Dengue-3 virus infection in Yangon Children Hospital, Myanmar. *Myanmar Journal of Current Medical Practice*. 2010; 15 (4): 32-36.
 27. **Khin Saw Aye**, Masanori Matsuoka, Masanori Kai, Kyaw Kyaw, Aye Aye Win, Mu Mu Shwe, Min Thein, Maung Maung Htoo and Myo Thet Htoon. FTA[®] Elute card utility for PCR detection of *Mycobacterium leprae*. *Jpn.J. Infect.Dis.* 2011. 64: 246-248.
 28. **Khin Saw Aye**, Min Thein, Aye Aye Win, Mu Mu shwe, Tin Tin Han, Thazin Myint, Khin Than Maw, Kyaw Zin Wai and Kyu Kyu Khin. Detection of dengue virus RNA from pericardial and ascitic fluids by Reverse Transcriptase Polymerase Chain Reaction (RT-PCR). *Myanmar Health Sciences Research Journal*. 2011: 23 (1): 1-5.
 29. Mu Mu Shwe, **Khin Saw Aye**, Aye Aye win, Nilar Zaw, Aye Aye Aung, Khin Lapayae Tun, Payae Mon Thaw, Nilar Aung and Thwe Ni Hyan Htun. Prevalence of cervical cytological abnormalities among attendees at Cervical Cancer Screening Clinic, DMR (Lower Myanmar). *Myanmar Health Sciences Research Journal*. 2011: 23(3):153-158.
 30. **Khin Saw Aye**, Yin Thet Nu Oo, Kyaw Kyaw, Aye Aye Win and Masanori Matsuoka. Genotyping of *Mycobacterium Leprae* in Myanmar and supposed transmission mode. *Jpn J Lepr*. 2012: 81: 191- 198.
 31. Aye Aye Win, Mu Mu Shwe, Min Thein, **Khin Saw Aye**, Khin Shwe Mar, Tin Tin Han, Khin Than Maw and Thazin Myint. Study on presence of macrophages in cervical cancer using immunohistochemistry. *Myanmar Health Sciences Research Journal*, 2012. 24(1):25-29.
 32. **Khin Saw Aye**, Ethical Issues in Genomic Research, Proceedings of Genomics and Health Seminar, Myanmar Academy of Medical Sciences (MAMS), 2012: Page 38.
 33. Chie Nakajima, **Khin Saw Aye**, Aki Tamaru, Zeaur Rahim, Ajay Poudel, Bahagwan Maharjan, et al. Simple multiplex PCR assay for identification of Beijing family *Mycobacterium tuberculosis* isolates with a lineage-specific mutation in Rv0679c. *Journal of Clinical Microbiology* 2013;51(7):2025-32.
 34. **Khin Saw Aye**, Komgrid Charngkaew, Ne Win, Kyaw Zin Wai, Kyaw Moe, Nuntaya Punyadee, Somchai Thiemmeceae, Aroonroong Suttitheptumrongf, Sanya Sukpanichnant, Prida Malasit, Scott B Halstead, Pathology of Dengue Hemorrhagic Fever: A study on 13 autopsy cases in Myanmar, *Human Pathology* (2014) 45, 1221–1233.
 35. **Khin Saw Aye**, Immunity and Immunization; *Myanmar Journal of Current Medical Practice*. 2015; 19 (2): 20-24.
 36. Min Thein, Myat Mon, Myint Nyein, Nyo Mee May Thyn, Yee Yee Naing, **Khin Saw Aye**. Role of Polymerase Chain Reaction in the Diagnosis of Tuberculous Pleural Effusion. *Myanmar Health Sciences Research Journal* 2015; 27(1):36-41.
 37. Kyaw Lwin, Maung Maung Gyi, Aung Win Thein, Tin Shwe, Than Win, Kyaw Kyaw, Mar Mar Nyein, **Khin Saw Aye**, Myo Win and Lin Htet. Research: Contributions towards developing new tools to fight leprosy globally. *Myanmar Medical Journal*. Vol 57, No. 4 Supplementary issue, Dec 2015; p 52-58.
 38. **Khin Saw Aye**, Chie Nakajima, Tomoyuki Yamaguchi, Min Min Win, Mu Mu Shwe, Aye Aye Win, Thandar Lwin, Wint Wint Nyunt, Ti Ti, and Yasuhiko Suzuki. Genotypic characterization of multi-drug-resistant *Mycobacterium tuberculosis* isolates in Myanmar. *Journal of Infection and Chemotherapy*. 22(2016); pg 174-179.