

Use of AI in Medical Practice in Myanmar

Professor Dr. Zaw Than Htun

Director General

Department of Medical Research

1

AI in Genome Data Analysis

2

- Whole Genome Sequencing of Pathogens such as SARS-CoV2

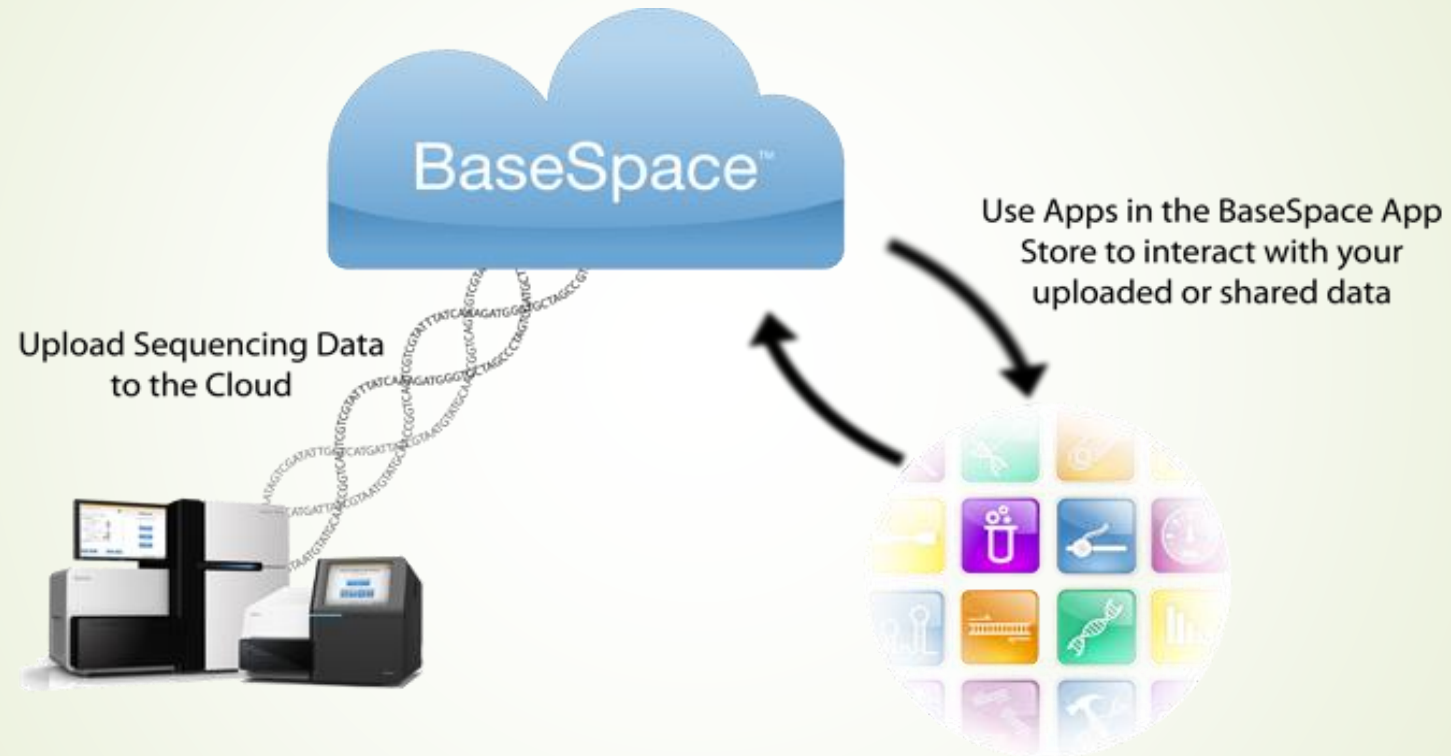


Figure 1: Genome Data Analysis using AI-based algorithms

Detection of Drug Resistant Genome of Various Pathogens

➔ Drug resistant molecular marker analysis of malaria parasites

- (1) Molecular markers for artemisinin and partner **drugs resistance *Plasmodium falciparum*** [therapeutic efficacy studies (TES) study on Malaria in Myanmar] (2015-2018)
- (2) Molecular markers on **Chloroquine resistant *Plasmodium vivax*** (2014-2016)

➔ Drug resistant molecular marker analysis of bacteria

- (1) Detection and characterization of extended spectrum beta- lactamase producing Gram negative bacilli and associated β -lactamase genes from diabetic ulcers (2020-2022)
- (2) Detection of **multidrug resistant *Acinetobacter*** species from clinical samples of Yangon General Hospital (2020-2022)

Radiology

- To avoid the over and under interpretation of the available radio-images of various imaging modalities (eg CxR, CT, MRI)

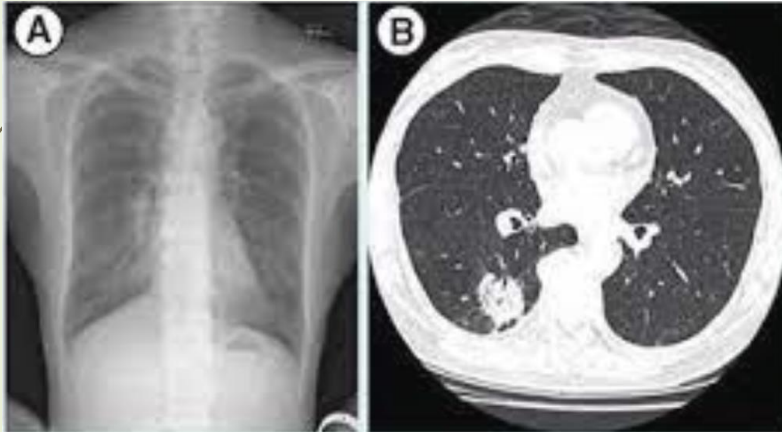


Figure2: X'ray and CT scan of Lung Cancer mimicking Tuberculosis in TB endemic country

Histopathology

- Use of AI in histopathological diagnosis (e.g screening purpose in Ca Breast)
- To enable the effective utilization of the expert histopathologist

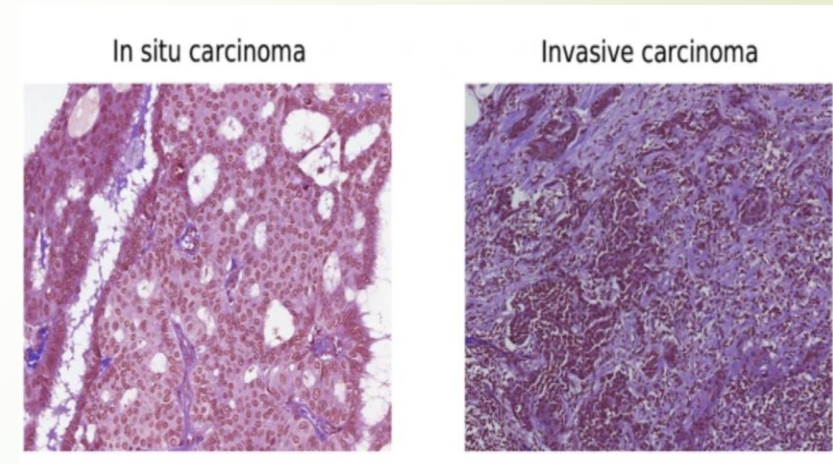


Figure3: Histopathology slides of Ca breast

Detection of Parasites

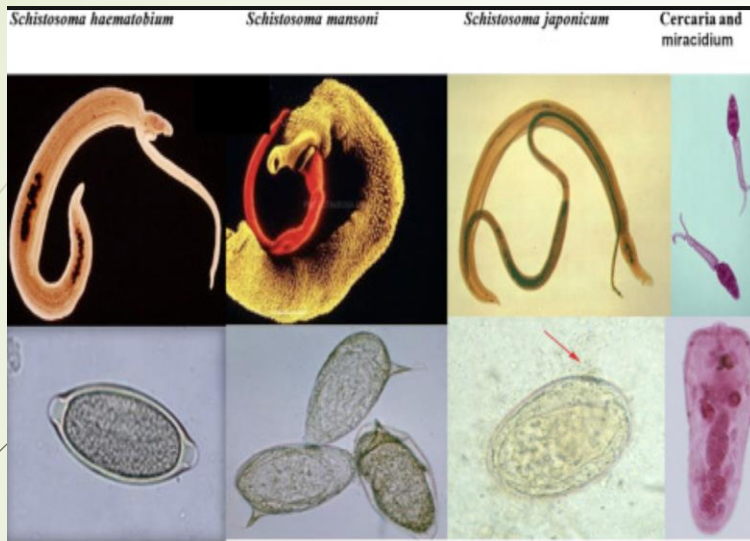


Figure 4: Schistosoma species



- Prevalence of Malaria in the border areas of Myanmar
- Prevalence of ***Schistosoma Mekongi*** species in some part of Myanmar (Ayeyarwady Region and Rakhine State)
- Shortage of Basic Health Staff capable of detecting malaria parasite and Schistosoma with microscope in the field

Others studies of DMR

- Drug resistance molecular markers of HIV patients in Myanmar (2019-2020)
- Drug resistance molecular markers of MDR/XDR-TB (2016-2023)
- Genotypic resistance to antiviral drugs among hepatitis B infected patients (2020-2023)

Thank you