

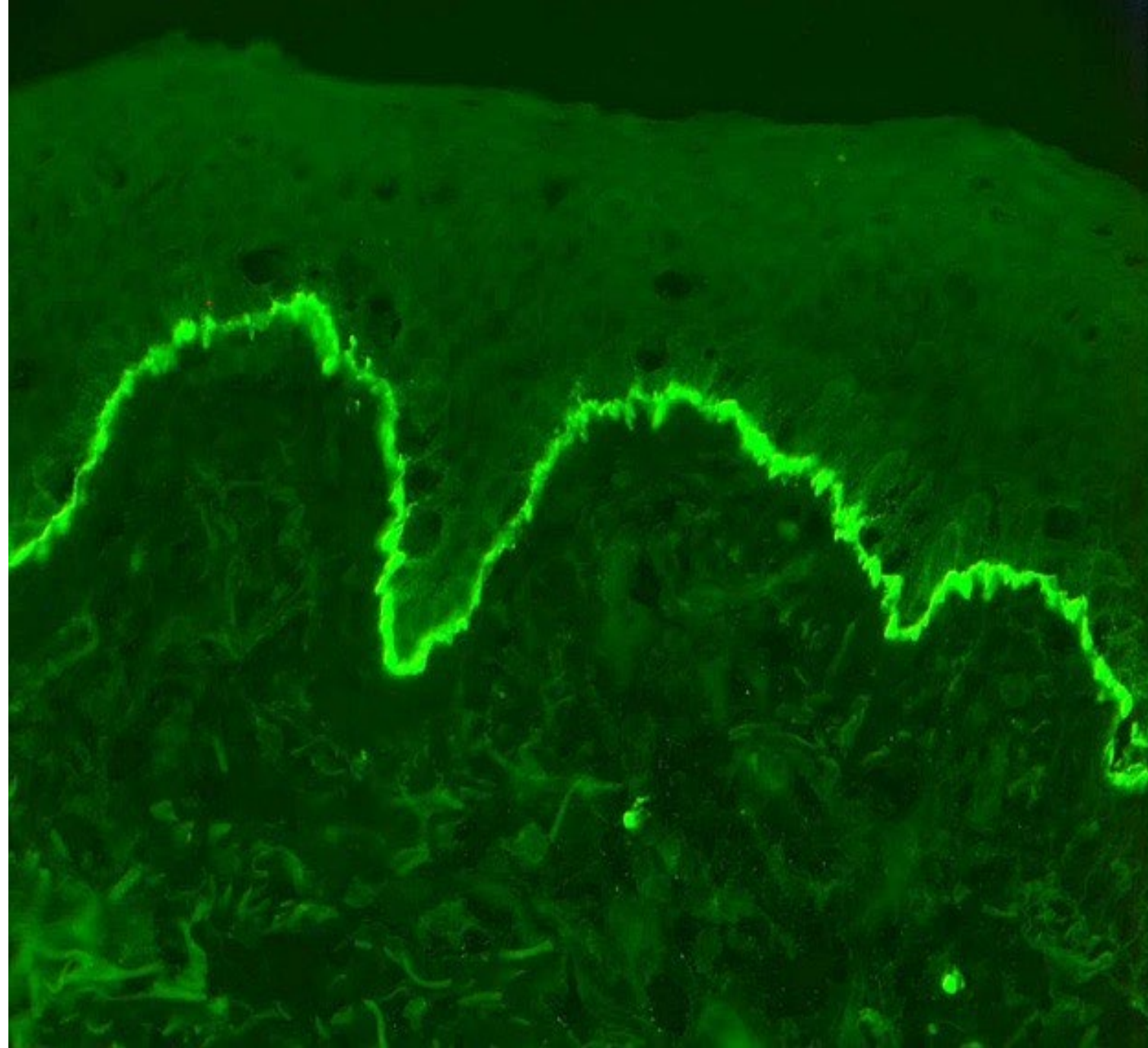
## Current diagnostic techniques

## Future Diagnostic Techniques

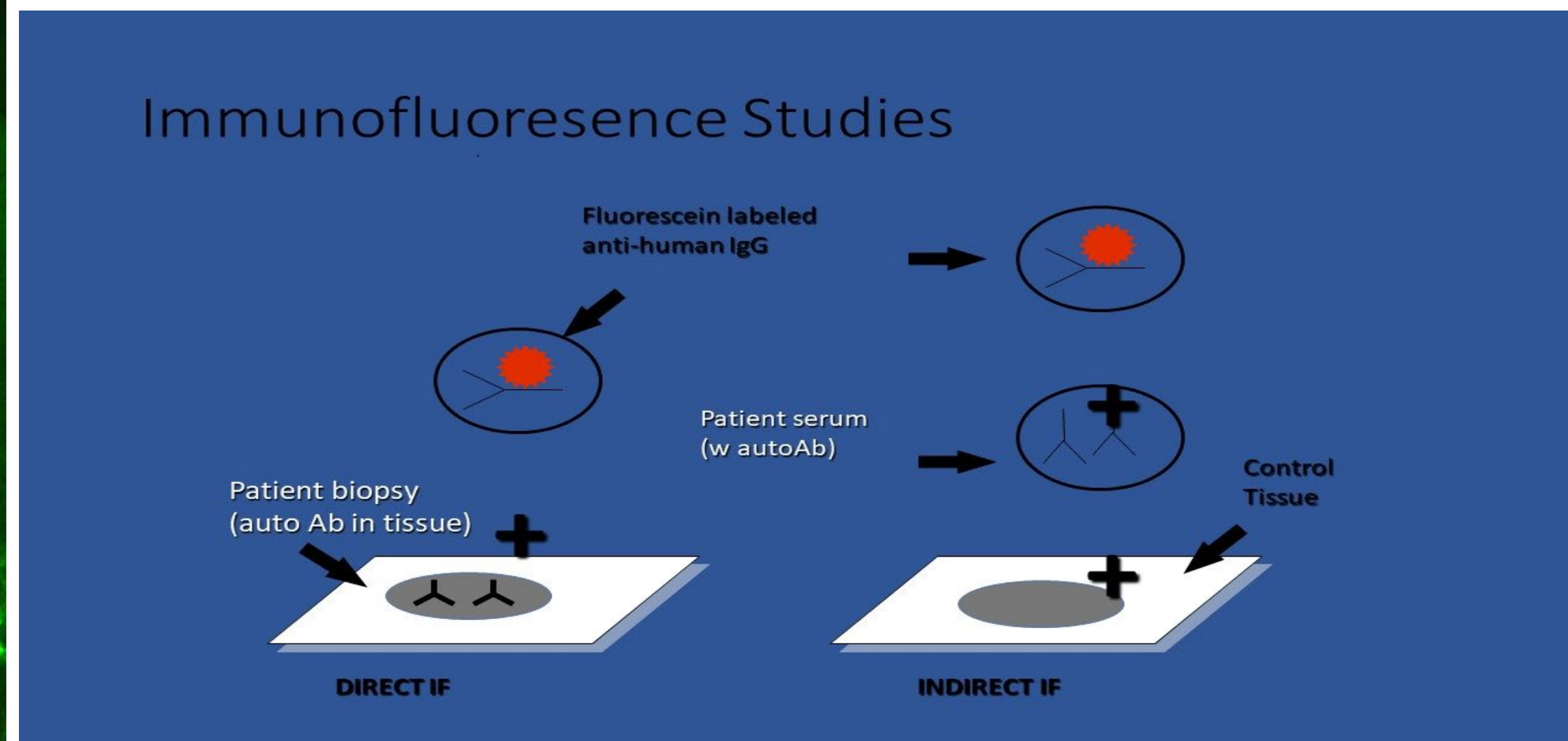
Vital Tissue Staining  
Chemiluminescence  
Oral Cytology  
Brush cytology  
Fine Needle Aspiration Cytology  
Saliva based diagnostics  
Tissue Biopsy  
Brush Biopsy  
Computed Tomography  
Magnetic Resonance Imaging

Optical Coherence tomography  
Microarray  
In situ hybridization  
Autofluorescence Spectroscopy  
Salivary transcriptomics  
Serum Diagnostics  
Positron Emission Tomography  
Ultrasound  
Photoacoustic Imaging  
Dried Blood Spot Testing

Artificial Intelligence (AI) based system  
Lab on a chip (LOC) detect biomarkers  
DNA methylation biomarker  
mRNA biomarker  
Protein biomarker  
Bionic sensor  
Quantum dots and Nanoparticles  
Confocal laser endomicroscopy  
Hyperspectral imaging  
Convolutional Neural Networks



Direct Immunofluorescence



Direct vs. Indirect Immunofluorescence

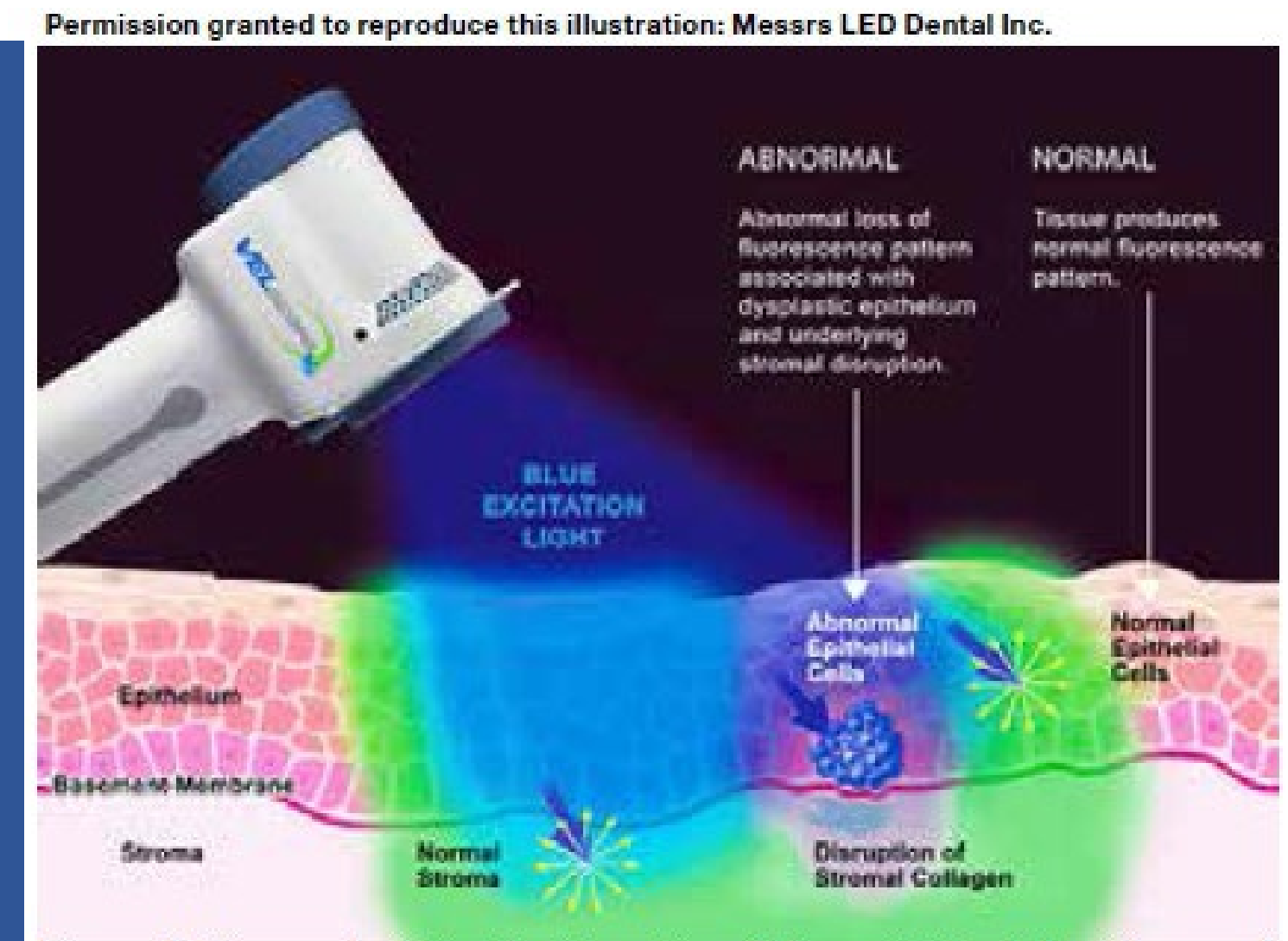
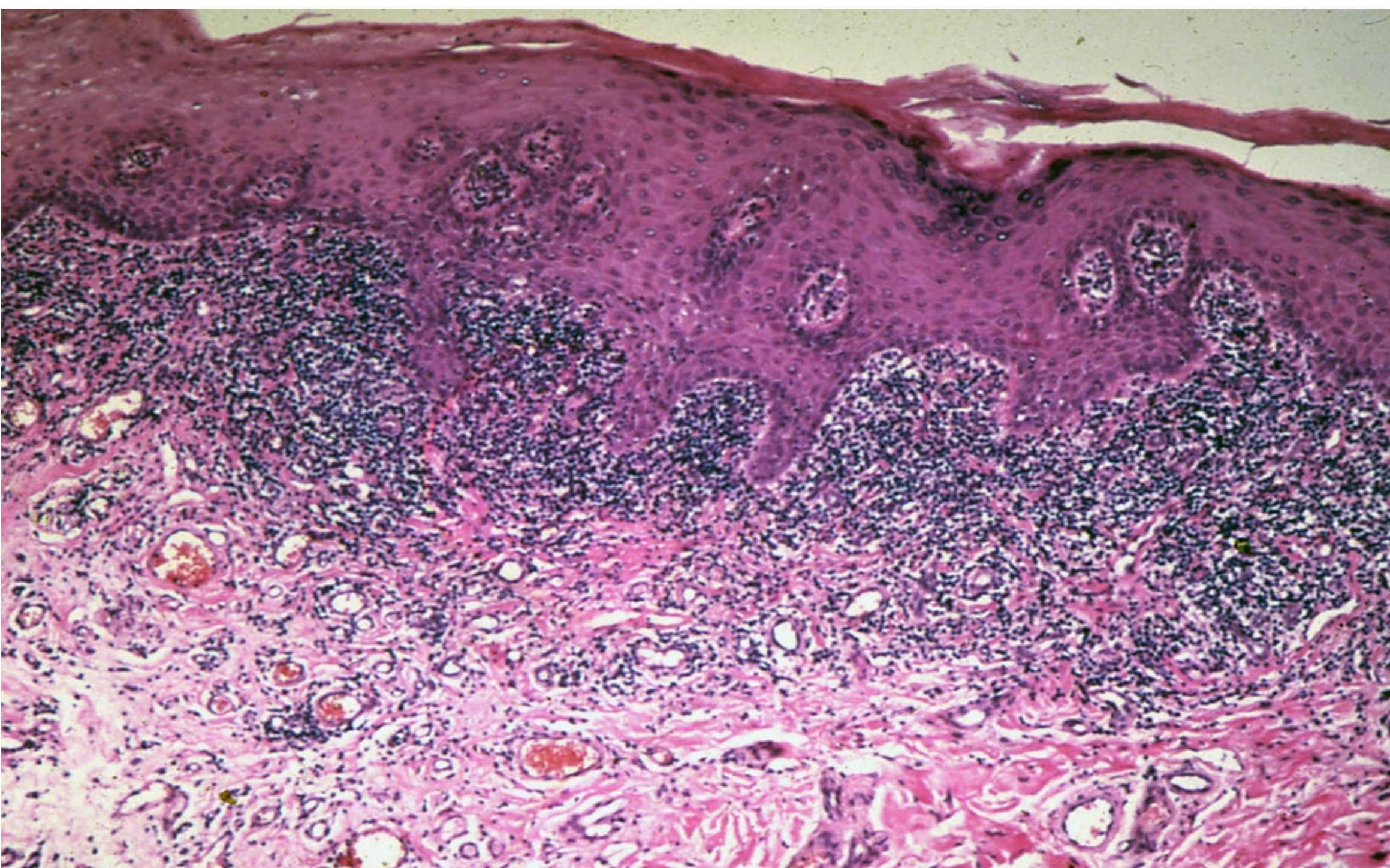
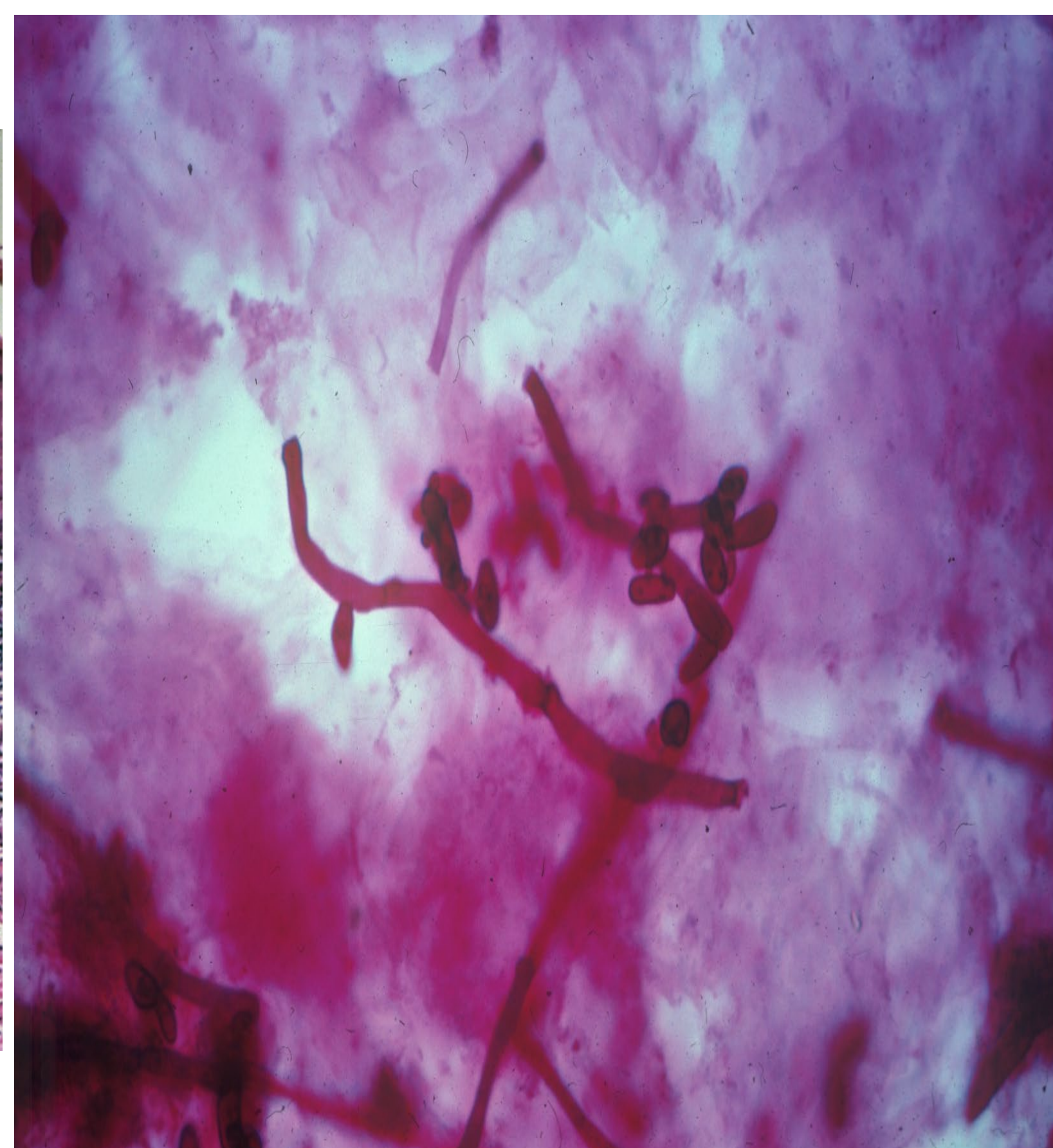


Figure 1: Diagram depicting the interaction of blue excitation light with normal and abnormal mucosa which results in FVR and FVL respectively when viewed through the Velscope handpiece. Adapted from Velscope enhanced oral assessment.<sup>16</sup>

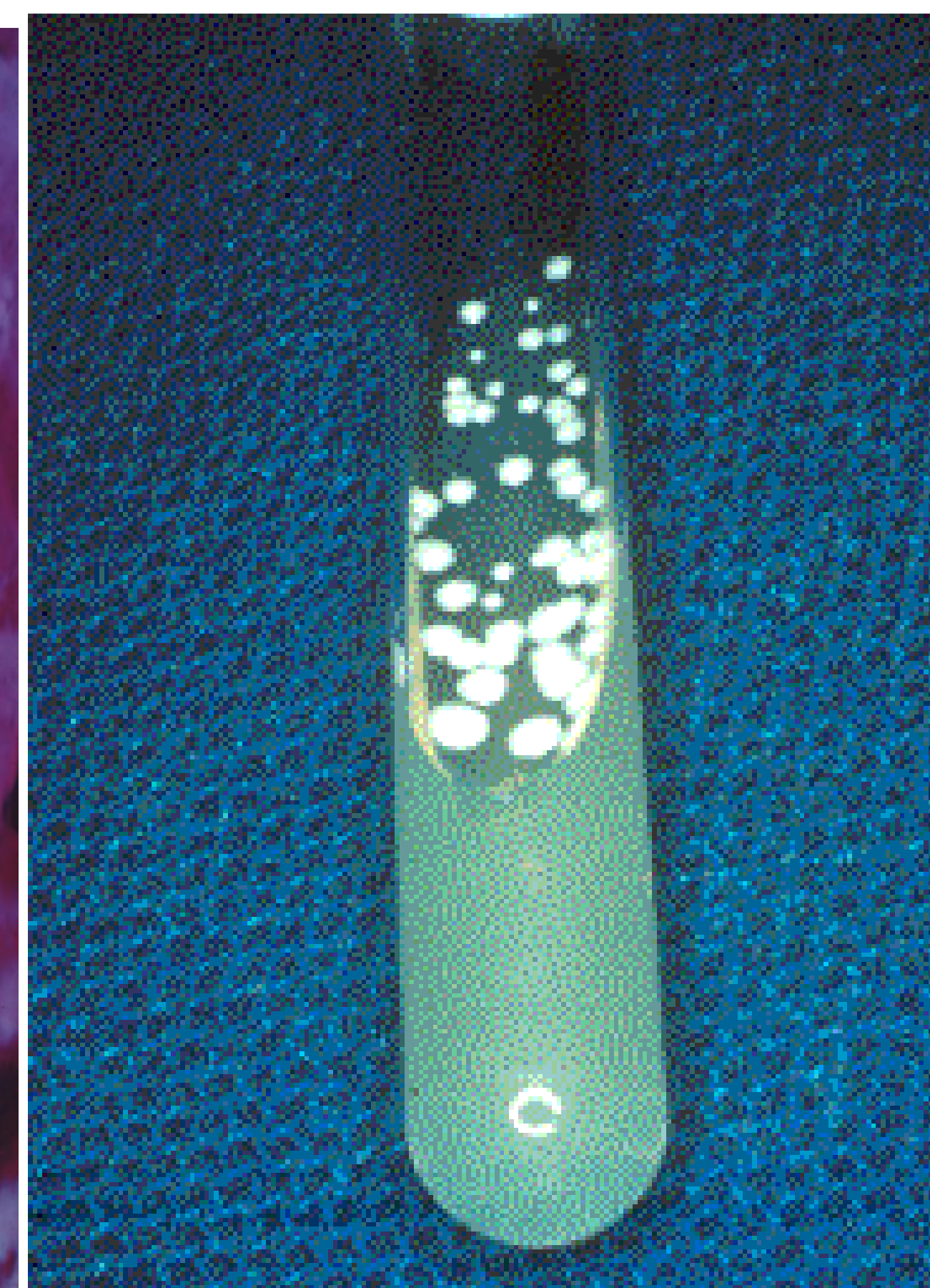
Fluorescence



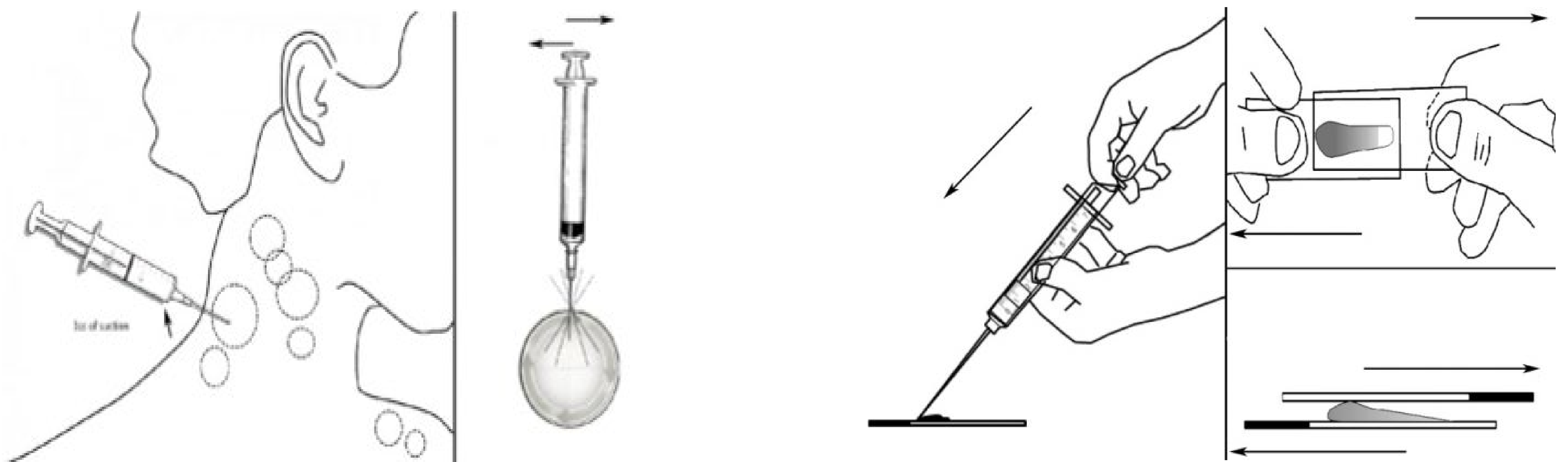
Light Microscopy



Cytology



Culture



Fine Needle Aspiration

## REFERENCES

Current and emerging techniques for oral screening and diagnosis; *Progress in Biomedical Engineering* 2021 Volume 3 Number 4.  
Current Insights into Oral Diagnostics; *Diagnostics*(Basel); 2021; July 11(7); 1287.  
An overview of current non-invasive diagnostic devices in oral oncology; *Frontiers in Physiology* 25 October 2018 Volume 9.  
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Role of artificial intelligence in the early diagnosis of oral cancer; A scoping review; *Cancers (Basel)*; 2021 (13) 4600.