

Transplant Pathology

Artificial intelligence in anatomical pathology

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The anatomoc pathology practice has been relying on microscopes and glass slides for more than 100 years. With the convergence of digital pathology (DP) and artificial intelligence (AI), an exciting paradigm shift has finally started. Many successfully implemented clinical applications have already used for daily practice in different countries with various settings to improve diagnostic accuracy, efficiency, and consistency. In the conceivable future, there will be subvisual morphometric features discovered and multiomics data integrated to provide better prognostic and theragnostic information to guide individual patients' management. Together, the movement will significantly strengthen precision medicine development and depolyment. However, there are still many practical challenges for AI-assisted digital pathology diagnostic workflows to fully integrate into routine practice. In this presentation, we'll briefly review some examples of AI applications in anatomic pathology, speculate future development stragety and discuss major challenges encountered in current clinical implementation.