visibility of certain structures, such as blood vessels or tumors. In some cases, specialized imaging protocols are employed, such as functional MRI (fMRI) or di usion tensor imaging (DTI), which provide insights into brain function and neural pathways [7,8].

Image Interpretation: A er the images are acquired, neuroradiologists analyze them for abnormalities. is process involves identifying structural changes, such as tumors, hemorrhages, or lesions, and assessing functional abnormalities like altered brain activity. Neuroradiologists also evaluate the impact of the condition on surrounding structures, such as the spinal cord or cranial nerves. For example, in stroke cases, MRI can help di erentiate between ischemic and hemorrhagic strokes, while advanced imaging can reveal the exact location and extent of damage [9,10].

Conclusion

Neuroradiology has become an indispensable tool in modern medicine, providing essential insights into the diagnosis and management of neurological disorders. By utilizing advanced imaging technologies such as CT, MRI, PET, and angiography, neuroradiologists are able to visualize the complex structures of the brain, spinal cord, and associated regions with exceptional precision. is capability is critical in the early detection of conditions like brain tumors, stroke, traumatic brain injury, neurodegenerative diseases, and vascular abnormalities, which allows for timely intervention and improved patient outcomes. e integration of advanced imaging techniques, such as functional MRI (fMRI) and di usion tensor imaging (DTI), has further revolutionized the eld, o ering detailed information about brain activity and connectivity, which is vital for both clinical diagnoses and research. Neuroradiology not only aids in the diagnostic process but also plays a crucial role in treatment planning, monitoring disease progression, and guiding therapeutic interventions such as minimally invasive surgeries and radiation therapy.

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