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Rodent Brain Imaging with X-ray CT YOUNGHO SEO, TOMOKI HASHIMOTO, YOSHITSUGU NUKI, BRUCE HASEGAWA, BENJAMIN FRANC, University of California, San Francisco — High resolution compact computed tomography (CT) systems have become increasingly important for examining morphology in small animal models of human biology and disease. However, functional measurements of blood flow and tissue perfusion are more challenging due to limited temporal resolution and need for x-ray absorptive contrast media. We therefore have developed methodologies which use x-ray CT for imaging hemorrhagic stroke in the brain of the intact rat. The head of the anesthetized rat was secured in an immobilization device, followed by *in vivo* imaging with a dedicated small animal CT scanner (X-OTM, Gamma Medica-Ideas, Northridge, CA). Imaging was performed without iodine contrast to visualize a very small volume (less than 0.1 ml) of arterial blood in a rat model of intracranial hemorrhage, and with iodine contrast (iopromide, 300 mgI/ml) to visualize carotid and cerebral arteries in order to study aneurysms and other vascular formations that may precede or indicate intracranial hemorrhage.

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