

Abstract Submitted  
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**Direct Near Infrared Imaging of Brain Surface Blood Vessel Using Indocyanine Green Angiography<sup>1</sup>** TAKAMSA TAMURA, SAYAKA MATSUDA, SEIRA SHIGEKUNI, RISACO TANAKA, CHIHIRO TSUTSUI, TAKAMICHI HIRATA, Graduate School of Engineering, Tokyo City University — A three major disease (cancer, apoplexy, and acute myocardial infarction) becomes a serious problem in various foreign countries of the world. Especially, hypoxic-ischemic encephalopathy (HIE) caused by cardiac infarction, arrest cardiac, and suffocation, etc. is a type of brain damage that occurs when the brain doesn't receive enough oxygen and blood. From the above-mentioned background, we performed direct imaging by indocyanine green (ICG) angiography of rat's cerebral blood vessel. The contrast medium: ICG is a water-soluble, tricarbo-cyanine dye used in medical diagnostics. It is used for determining cardiac output, hepatic function, and liver blood flow, and for ophthalmic angiography. ICG in the blood is excited near infrared ray (NIR), generates fluorescence of 800 - 850 nm. The excitation of ICG used 780 nm Infrared (IR) LED array light source. Fluorescence is made an image with near-infrared (NIR) cooled CMOS camera system and long wavelength pass filter installed in the video zoom microscope. As a result, it was proven to be able to measure the behavior of the cerebral blood vessel by noncontact by using light in the near-infrared area that had the living body permeability

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