Blood vessel Segmentation from 3-D Abdominal CT Images for Laparoscopic surgery

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The main purpose of our research is the aid of laparoscopic surgery. Laparoscopic surgery now becomes very popular as one of minimal invasive surgical procedures for decreasing of loads of the patient. In the laparoscopic surgery, the laparoscope and the forceps are inserted through tiny incisions in the abdomen, and the surgeon operates forceps while observing the pictures on a video monitor which are taken from laparoscope. However, the field of view of a laparoscope is very limited. So, the surgical assistance, such as reference image generation or surgical navigation, is quite important to make laparoscopic surgery safe. In realization of such systems, segmentation of blood vessel is quite important task. We try to segment blood vessels from 3-D CT images by utilizing a line shadow enhancement filter.