The study for the color information changes of endoscopic image by the distance

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(Introduction) The color information of the conventional endoscopic image is displayed by RGB coordinates, but this color information is changed by the distance, even same tissue. (Purpose) We try to conform that HSV coordinates and the virtual spectroscopic image to suppress the change of color information of the endoscope. Then we evaluate the verification of HSV coordinates and virtual spectroscopy by comparing with the absolute spectral by the liquid crystal tunable filter. (Result) We confirmed that the difference between HSV coordinates image and virtual spectral image and the absolute spectral image. Then the HSV coordinates suppress the color information change by distance. Also virtual spectral image is almost same result. (Conclusion) We confirmed that the HSV coordinates image makes suppress the change of color. Moreover, we had created a virtual spectroscopic endoscope image by using endoscope light, it is possible to suppress the change of color information by this method.