Using of Wearable Recording Technology for Surgical Training Video in Living Donor Liver Transplantation

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Introduction: As surgical video recording technology has developed, trainee education using educational video has been made. In case of laparotomy, video recording system using a surgical video crane has been introduced and many surgeons present own video in congress or society meetings. However, the view in the surgical field is different from that of the surgical video. In addition, when the first assistant or operator concentrates the focus on the field, it is difficult to actually capture what their hands are doing. In other words, recorded video has a limitation in terms of education because it does not carry all the role of the participant.

Methods: A head mount was used to fix the camera on the operating surgeon’s head. The recorded video was subsequently edited and used as a teaching tool. The procedure recorded were recipient hepatectomy, hepatic vein anastomosis, portal vein anastomosis, hepatic artery anastomosis, bile duct anastomosis. Each video clip were edited for trainee education including indicator, subtitles and narration.

Results: The recorded video clips were high quality, which allowed for zooming and visualization of the surgical anatomy clearly. The camera can be mounted on the surgeon’s head, so we could get a view of surgeons or 1st assistant. The trainees were able to perform image training through video before entering the surgery and showed a little more adaptation to surgery.

Conclusions: Head-mounted action camera video recording system is a good model for making high quality, educational video module, and can be a useful teaching tool in living donor liver transplantation surgery.

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