A development of low cost telemedicine environment using broadband network

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Telemedicine is being tried as a means of eliminating the gap which exists in regions that lack sufficient medical services. This process involves providing medical care through communication between a patient and medical physicians who are located in distant places. Research into telemedicine has been focused primarily on determining the extent of medical care that can be provided through the use of network communications, and sufficient consideration has not been given to the network infrastructure. On this time, we tried to implement some actual telemedicine systems using DVTS (Digital Video Transport System) application as free software and general-purpose equipments. One trial is “inter-campus consultation system”. Kyoto University has three major campuses at central and near Kyoto. All campuses have health service but medical doctor is not sufficient, so all medical doctors go the rounds to all campuses. We constructed using DVTS system and few civilian goods, for example Sony DV camera, electronic stethoscope and audio distributor to eliminate location gap. Consequently, Medical doctors could do consultation and listen heartbeat. A breath sound could be heard, but this sound was not used to diagnosis because there are timing issues between body motion from video picture and breath sound from video sounds. Other trial is that join to international conferences using APAN (Asia Pacific Advanced Network). We send a live surgical video to conference site and we accepted voice of the conference room at our surgery room. We could establish a two-way communication. Of course, we were not use special equipments.

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