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Research Competition

Oral Presentation

Efficiency of Mobile Video Sharing Application (Google Meet) in Real-Time Field Image Transmission for Telepathology

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ABSTRACT

Background. Telepathology refers to the practice of pathologists from different locations who communicate to arrive at a diagnosis. As of 2016, the estimated pathologist-to-patient ratio is only 1:167,000. The limited number of pathologists available and the bulk of biopsy specimens to be diagnosed is entirely disproportionate thus emphasizing the need for telepathology. However, comprehensive imaging software, high-end communication systems, fast and stable internet connection are all expensive. Thus, it is only practical to utilize free voice and video calling applications like Google Meet®.

Objective. The objective of this study was to determine the efficiency of a mobile video sharing application (Google Meet®) in real-time field image transmission for telepathology specifically identifying how many concordant and discordant diagnoses were done and to determine the acceptance rate of the pathologists in terms of quality of images, quality of voice communication, confidence in diagnosis, and Turn-Around Time (TAT).

Methodology. A total of 171 benign and malignant cases with released outright histopathology results from January 2023-December 2023 were chosen as samples.

Results. The highest concordant diagnoses (100%) were made with malignant gastro-intestinal tract excision, benign and malignant female genital tract, benign and malignant male genital tract, malignant lymphoid neoplasm, polyp, pap smear, and ditzels. The lower concordant diagnoses (80%) were from benign breast excision, malignant head and neck excision, and benign lymphoid neoplasm. The shortest Turn-Around Time (TAT) was observed among ditzels with an average of 2 minutes per slide. Longer Turn-Around Time (TAT) was observed among more difficult cases such as malignant cases of the head and neck, soft tissue, and fine-needle aspiration biopsy or smears. More than 90% of the diagnoses made by the pathologists are concordant with the official result.

Conclusion. The overall acceptance rate of application of dynamic telepathology is high with a good to average rating in terms of image and audio quality.

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Key words. *telepathology, communication, pathologists*