POSTERS AND DEMONSTRATIONS

A Desktop Digital Imaging and Communications in Medicine Picture Archiving and Communications System With Multiple Monitors Using Windows '98

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THIS EXHIBIT presents a cost-effective approach to manage, review, and distribute Digital Imaging and Communications in Medicine (DICOM) images with multiple monitors using Windows '98. The system provides a user-friendly and reliable means for radiologists and clinicians to access images that will improve patient care.

METHODS AND MATERIALS

DICOM head computed tomography (CT) images were collected using Digital Jacket (DesAcc, Inc, Chicago, IL) server software. Multidisplay is a unique feature of Windows '98. The images were concurrently displayed, allowing for simultaneous comparison of studies. Also, different window settings were employed without additional printing costs. Images were reviewed by staff radiologists first using an Osiris/Papyrus viewer and retrospectively on conventional film. This low-cost system was assembled using a standard commercially available personal computer and components with low-cost software and free shareware.

The time to determine the diagnosis on the display station and the primary diagnosis were recorded. The number of cases in our study was 176.

RESULTS

The system is currently being used to review head CT images at our institution. There was no significant discrepancy in the diagnosis between the electronic and the conventional images. The average electronic image reviewing time was 40.70 seconds (285 seconds maximum, 15 seconds minimum, SD = 42.16 seconds) versus 15.48 seconds for film.

CONCLUSION

Combining DICOM software and internet access using desktops, an accessible and low-cost PACS system is conveniently available to the medical community.

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