

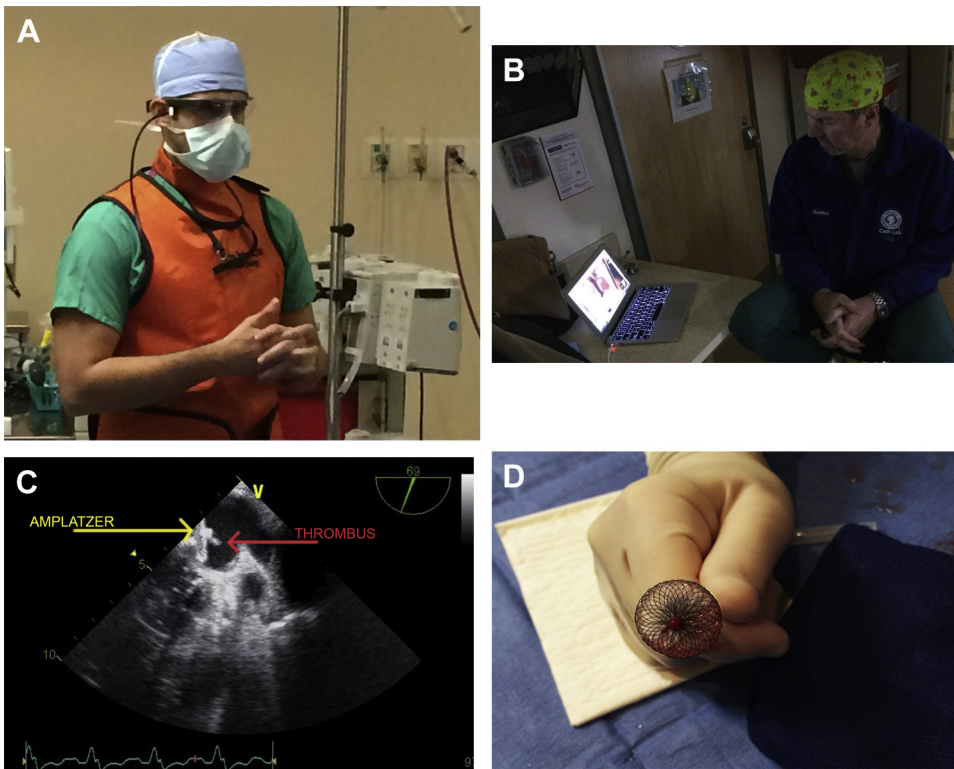
IMAGES IN CARDIOLOGY

“Tele-Mentoring”: An Interventional Procedure Using a Wearable Computer



First-in-Man

Christian Assad-Kottner, MD, Abdul Hakeem, MD, Eudice Fontenot, MD, Barry F. Uretsky, MD
Little Rock, Arkansas



From the Department of Cardiology, University of Arkansas for Medical Sciences and Arkansas Children's Hospital, Little Rock, Arkansas. Manuscript received November 25, 2013; accepted November 26, 2013.

We report remote “tele-mentoring” of an interventional procedure using a wearable computer. Four months post-pneumonectomy, a patient developed dyspnea from right-to-left shunting (arterial saturation 77%) from a patent foramen ovale (PFO). The PFO balloon occlusion normalized saturation (99%). Closure was assisted by a physically remote structural heart expert. A team member used a wearable computer (GoogleGlass, Google, Mountain View, California) (A) to “livestream” to the mentor’s computer who communicated with the catheterization team (B, [Online Video 1](#)). An example of the tele-mentor’s value was demonstrated when the closure device was passed through the delivery sheath and transesophageal echocardiography suggested thrombus at the delivery sheath tip (C, [Online Video 2](#)). The tele-mentor recommended apparatus removal revealing thrombus (D). Device reinsertion and closure were uneventful. This tele-mentoring case using a wearable computer provides proof-of-concept that tele-mentoring improved expertise for challenging interventions and likely other medical procedures (1).

REFERENCE

1. Vallurupalli S, Paydak H, Agarwal SK, et al. Wearable technology to improve education. *Health Technol* 2013;3:267–70.