Dijagnostička i prognostička uloga TEE i 3D TEE u infekcijskom endokarditisu

TEE and 3D TEE in diagnostic and prognostic assessment of infective endocarditis

Josip Vincelj
Klinička bolnica Dubrava, Zagreb, Hrvatska
Dubrava Clinical Hospital, Zagreb, Croatia

Sažetak

Transezofagusna ehokardiografija (TEE) koristi se u kardiologiji kao jednodimenzijski prikaz (1D) od 1976. godine, od 1977. godine kao dvodimenzijski prikaz (2D), a u zadnjih desetak godina i kao trodimenzijski (3D) prikaz.

U bolesnika sa suspektnim infekcijskim endokarditisom (IE) ehokardiografijom otkrivamo promjene na srčanim valvulama i procjenjujemo sistoličku i dijastoličku funkciju srca. Ehokardiografija je nezaobilazna metoda u dijagnostici IE i njegovih komplikacija kao što su insufcijencija valvula, ruptura ili perforacija kuspisa i perivalvularno širenje infekcije. Osim toga, metoda ima važnu ulogu i u procjeni embolijskog rizika. Infekcijski endokarditis nativne mitralne i aortne valvule kompliciran je velikim sustavnim embolijama u oko 20-30% bolesnika. TEE može otkriti vegetacije na nativnim srčanim valvulama u većini bolesnika s IE. Međutim, postoje određene poteškoće u otkrivanju vegetacija na umjetnim valvulama i na elektrodama elektrostimulatora srca zbog metalnih dijelova koji stvaraju reverberacije i artefakte. Ehokardiografijom možemo ustanoviti veličinu, ehogenost i mobilnost vegetacije i oštećenje funkcije zahvaćene valvule. Vegetacije koje su veće od 1,0 cm u promjeru pokazuju znatno viši rizik (oko 36%) za emboliju nego manje vegetacije u kojih je rizik oko 6%. Vegetacije se ehokardiografijom otkrivaju u 42-86% bolesnika s IE. Usporedba rezultata TEE i TTE u detekciji vegetacija pokazuje bolju specifičnost TEE (91-98%) od specifičnosti TTE (67%). 3D TEE sve više se koristi u dijagnostici u zadnjih desetak godina. Osjetljivost ove novije metode u dijagnozi IE slična je 2D TEE, dok je njezina specifičnost značajno viša (100%).

Abstract

Transoesophageal echocardiography (TEE) is used in cardiology as one-dimensional image (1D) from 1976, from 1977 as a two-dimensional image (2D), and during the last ten years as a three-dimensional (3D) image.

In patients with susceptible infective endocarditis (IE) we use echocardiography to detect changes to cardiac valves and we evaluate systolic and diastolic heart function. Echocardiography is an unavoidable method in diagnostics of IE and its complications such as valve insufficiency, rupture and cuspis perforation and perivalvular infection spreading. Besides, the method also has an important role in evaluation of embolic risk. Infective endocarditis of native mitral and aortic valve is complicated due to large systematic embolism in around 20-30% of patients. TEE may detect vegetation with native heart valves in most of the patients with IE. However, there are certain difficulties in detecting vegetations on artificial valves and on heart electrostimulator electrodes due to metal parts that cause reverberations and artifacts. We can use the echocardiography to determine a size, echogenity and mobility of vegetation and damage of the valve function. Vegetations that are greater than 1.0 cm in diameter show a significantly higher risk (around 36%) for the embolism than smaller vegetations where risk is about 6%. Vegetations are detected in 42-86% of patients with IE by applying echocardiography. The comparison of results TEE and TTE in detection of vegetations show a better specificity of TEE (91-98%) than the specificity of TTE (67%). 3D TEE has been more and more used in diagnostics during the last ten years. The sensitivity of this more recent method in diagnosis of IE is similar to 2D TEE, while its specificity is much higher (100%).

Za dobar ishod liječenja bolesnika s IE važna je brza dijagnoza, pravovremena i učinkovita terapija, prepoznavanje i rješavanje komplikacija. Ehokardiografija svojom važnom dijagnostičkom i prognostičkom ulogom doprinosi boljem ishodu liječenja.

Received: 5th Oct 209

E-mail: jvincelj@kbd.hr

Making a quick diagnosis, timely and efficient therapy, recognizing and resolving complications are important for a good outcome of the treatment of patients with IE. Echocardiography contributes to a better outcome of the treatment owing to its diagnostic and prognostic role.

Tkivni Doppler u hemodinamskom ispitivanju srca

Tissue Doppler in the hemodynamic heart evaluation

Jadranka Šeparović-Hanževački

Klinički bolnički centar Zagreb, Zagreb, Hrvatska

Clinical Hospital Centre Zagreb, Zagreb, Croatia