COMPARATIVE DIAGNOSTIC VALUE OF TRANSESOPHAGEAL ECHOCARDIOGRAPHY AND RETROGRADE AORTOGRAPHY IN THE EVALUATION OF THORACIC AORTIC DISSECTION

F. CHIRILLO, C. CAVALLO, C. LONGHINI, P. IUS, O. TOTIS, A. CAVARZERANI, A. BRUNI, C. VALFRE, P. STRITONI

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(F. Chirillo, MD, Cardiologia, Ospedale Regionale, 31100 Treviso, Italy)

The aim of this study was to assess the comparative diagnostic value of transesophageal echocardiography (TEE) and retrograde aortography for morphologic evaluation and anatomic mapping of aortic dissection. Seventy patients (aged 18 to 79 years) were prospectively evaluated with both techniques for suspected aortic dissection. In 64 patients, findings on aortography and TEE could be validated against intraoperative (n = 53) and postmortem (n = 11) findings. Examination time was significantly shorter for TEE (9 ± 6 vs 48 ± 25 minutes; p < 0.001). For the detection of aortic dissection, aortography showed lower sensitivity (87.5% vs 97.5%) and negative predictive value (85.3% vs 96.7%; both trends did not reach statistical significance) due mostly to the inability to identify non-communicating dissection (dissection without intimal tears). For the epiphenomena of aortic dissection, aortography was significantly more accurate (97.2% vs 78%; p < 0.05) in assessing the site of entry, and TEE was more accurate in identifying thrombus formation (90% vs 65%; p < 0.05). There was no significant difference between aortography and TEE with regard to assessing secondary tears, aortic regurgitation, coronary dissection, and extension of the dissection. Thus, both TEE and aortography offer detailed anatomic mapping for guided surgical interventions. In elective patients, integration of both techniques seems the best approach; in unstable patients, TEE may be preferential because it is less invasive, requires no contrast injection, and provides accurate diagnosis in a short time at the bedside.

Author's abstract

EVIDENCE THAT PATENT FORAMEN OVALE IS NOT A RISK FACTOR FOR CEREBRAL ISCHEMIA IN THE ELDERLY

E.F. JONES, P. CALAFIORE, G.A. DONNAN, A.M. TONKIN

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(E.F. Jones, MB, BS, Cardiology Department, Austin Hospital, Heidelberg, Victoria 3084, Australia)

Patent foramen ovale (PFO) may be a risk factor for ischemic stroke in young patients. The aim of this study was to assess the importance of PFO in subjects with a wider age range using patient-control methodology. Transesophageal contrast echocardiography and carotid imaging were performed in 220 consecutive patients with cerebral ischemia (mean age 66 ± 13 years) and in 202 community-based control subjects (mean age 64 ± 11 years). Of patients with stroke, 35 (16%) had PFO compared with 31 control subjects (15%) (p = 0.98). Analysis of PFO prevalence by age did not show a significant difference between patients and control subjects in the age groups < 50 years (27% vs 11%; p = 0.33), 50 to 69 years (17% vs 15%; p = 0.78), and ≥ 70 years (12% vs 17%; p = 0.43). However, the group aged < 50 years was relatively small (26 cases, 19 controls). No significant difference in PFO prevalence was detected between patients with cryptogenic stroke (20%), noncryptogenic stroke (14%), and control subjects (15%). These results suggest that PFO is not a risk factor for cerebral ischemia in subjects aged ≥ 50 years, which would have major implications for the investigation and management of stroke patients in this age group. Longitudinal studies are now required to assess the incidence of stroke in symptomatic patients with PFO.

Author's abstract

CORONARY ECHOCARDIOGRAPHY IN 406 PATIENTS WITH d-LOOP TRANSPOSITION OF THE GREAT ARTERIES

L. PASQUINI, S.P. SANDERS, I.A. PARNES, G. WERNOVSKY, J.E. MAYER, M.E. VAN DER VEIDE, P.J. SPEVAK, S.D. COLAN

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(S.D. Colan, MD, Department of Cardiology, Children’s Hospital, 300 Longwood Avenue, Boston, MA 02115)

The reliability of two-dimensional echocardiography for determining the proximal coronary artery anatomy in d-loop transposition of the great arteries was investigated in 406 infants who underwent surgical repair at one institution. The origin and proximal course of the main coronary arteries can affect the surgical results of the arterial switch operation. Preoperative determination of the coronary artery anatomy appears to be advantageous for the surgeon. All infants with d-loop transposition who underwent a two-dimensional echocardiogram and primary surgical repair at our institution between 1987 and 1992 were identified, and the echocardiographic, operative, and, when available, autopsy reports were reviewed for coronary artery anatomy, presence of a ventricular septal defect and the spatial relation between the arterial roots. The two-dimensional echocardiographic findings were compared with surgical or autopsy findings. The relation between proximal coronary artery anatomy and 1) a ventricular septal defect, and 2) the spatial orientation of the arterial roots was investigated. Twenty-seven infants diagnosed with an intramural coronary artery were not included because they are the subjects of another report. Excluding intramural coronary artery patterns, 10 different types of coronary artery anatomy were seen in these 406 patients. The coronary arteries were imaged adequately in 387 (95%) of the 406 patients. The coronary artery anatomy was determined correctly by two-dimensional echocardiography in 369 (95.4%) of the 387 pa-