OUTCOMES

Drug-eluting stent use is associated with outcomes

META-ANALYSIS OF THE DIAGNOSTIC ACCURACY OF PRESSURE MEASUREMENTS IN CORONARY ARTERY DISEASE

Bornschein B1, Klauss V2, Siebert U1

1UMIT University of Health Sciences, Medical Informatics, and Technology, Hall i.T., Austria, 2University of Munich, Munich, Germany

OBJECTIVES: To summarize the diagnostic accuracy of coronary pressure-based fractional flow reserve (FFR) in patients with suspected coronary artery disease. METHODS: A systematic search in literature databases (MEDLINE, EMBASE, Cochrane and HTA-databases) up to 2005 was performed to identify published studies comparing FFR with a functional reference standard and reporting test characteristics. As reference standard SPECT, scintigraphy or combinations of several tests (e.g. stress electrocardiography, stress echocardiography, angiography) were accepted. We constructed diagnostic 2×2-tables from diagnostic test characteristics (e.g., sensitivity, specificity) and performed a diagnostic meta-analysis using the inverse variance approach. RESULTS: Thirteen articles were identified matching the inclusion criteria. Four articles were excluded because of multiple reporting of data. From the 9 studies included, data for 717 observational units (i.e., patient or coronary lesion) were extracted. Pooled sensitivity of FFR was 82% (95%-CI: 77–86%), and specificity was 79% (74–83%). Diagnostic odds ratio was 16.5 (11.4–61.7). Excluding single studies did not affect these results. Subgroup analyses showed severity of disease reflected by the number of affected coronary vessels as an influential factor on test sensitivity (single-vessel-disease: 95% [87–99%] vs. 78% [73–83%]) in multi-vessel-disease. Choice of reference standard also influenced pooled sensitivity. Studies using SPECT as reference standard showed a lower sensitivity than studies using other reference standards (78% [73–83%] vs. 95% [87–99%]). Subgroups of studies with multi-vessel-disease patients and studies using SPECT as reference standard tended to be of newer publication date. CONCLUSIONS: FFR is a functional test with sufficiently high sensitivity and specificity for the detection of hemodynamic relevant coronary stenoses. Time trends in the data affecting the overall estimate of pooled sensitivity can not be excluded, but are unlikely to relevantly influence the result.

PCV4

REACHING SIGN CHOLESTEROL TARGETS AND BEYOND: RETROSPECTIVE AUDIT OF TARGETS ACHIEVED THROUGH USE OF ROSUVASTATIN IN A SCOTTISH GENERAL PRACTICE

Burnett GR1, Dickson K2, Emmas CE2

1Princes Street Surgery, Thurso, Scotland, UK, 2AstraZeneca UK, Luton, UK

OBJECTIVES: Scottish Intercollegiate Guidelines Network (SIGN) guidelines advise that at risk patients should be treated to a total cholesterol (TC) target of <5 mmol/L. Recent Joint British Societies Guidelines (JBS2, 2005) recommend patients be treated to a lower TC target of <4 mmol/L. An audit was conducted to determine the effect of the new guidelines on the proportion of patients achieving target cholesterol levels with rosuvastatin. METHODS: General Practice records were searched to identify patients who had been prescribed rosuvastatin 10 mg and the following data recorded: previous statin therapy, last cholesterol result on that statin and first cholesterol treatment total cholesterol test. The majority of patients were statin-naive (n = 253), the others had previously been prescribed atorvastatin, mean dose 14 mg (n = 102), simvastatin mean dose 19 mg (n = 22) or pravastatin mean dose 15 mg (n = 2). Prior to treatment with rosuvastatin 13% (49/376) had a TC<5 mmol/L, increasing to 81% (303/376) after treatment with rosuvastatin 10 mg. In previously statin naive patients 82% (208/253) achieved TC<5 mmol/L on rosuvastatin compared to 77% (95/123) in patients who had previously been treated with another statin. On average patients experienced a 1.6 mmol/L (27%) reduction in TC (32% in statin naive, 16% where statin changed). Improvements were also seen against JBS2 targets; patients with TC<4 mmol/L improved from 3% (11/376) prior to rosuvastatin to 35% (131/376) on rosuvastatin 10 mg (37% in statin naive, 30% where statin changed). CONCLUSIONS: little is known about their long-term clinical outcomes versus bare-metal stents (BMS). We examined 2-year clinical event rates for BMS vs. DES in a practice-based population and compared results for patients with single- as well as multi-vessel coronary artery disease (CAD). METHODS: The study population includes Duke University Medical Center patients undergoing revascularization with BMS or DES between January 1, 2000 and May 31, 2005, with follow-up through August 17, 2006. Study outcomes examined are death, non-fatal myocardial infarction (MI), and target vessel revascularization (TVR), and their composites. RESULTS: We examined the data of 3678 BMS and 1689 DES patients. DES vs. BMS patients had more multi-vessel CAD (42.6% vs. 36.6%). At two years follow-up, DES vs. BMS patients had lower rates of mortality (7.8% vs. 8.6%), non-fatal MI (3.3% vs. 5.0%), and TVR (6.0% vs. 14.2%). This difference in DES vs. BMS TVR rate was observed in patients with 1- (5.5% vs. 13.0%), 2- (6.7% vs. 15.7%), and 3- vessel CAD (7.0% vs. 18.8%). After adjustment for differences in baseline characteristics using Cox proportional hazards modeling, DES vs. BMS use was associated with no difference in mortality; but with significant reductions in the composites of death or MI (HR = 0.81, 95% CI = 0.67, 0.98) and death, MI, or TVR (HR = 0.55, 95% CI = 0.47, 0.64). Event reduction in the adjusted models was not limited to 1-, 2-, or 3- vessel CAD patients. CONCLUSIONS: The use of drug-eluting vs. bare-metal stents is associated with significant improvements in long-term clinical outcomes for patients with single- and multi-vessel coronary artery disease.

PCV5

DRUG-ELUTING STENT USE IS ASSOCIATED WITH SIGNIFICANT IMPROVEMENTS IN LONG-TERM CLINICAL OUTCOMES

Eisenstein EL, Tuttle RH, Shaw LK, Anstrom KJ, Kong DF

Duke Clinical Research Institute, Durham, NC, USA

OBJECTIVE: Drug-eluting stents (DES) have become the principal coronary artery revascularization modality in the US; yet amounted to 75.8%. 56.5% of pts had hypertension and 29.7% were diabetic. Thirty-four percent of pts were diagnosed as obese with additional 44.2% of the pts' population being overweight. The prevalence of current smokers was 17.5% in total study population and 15.8% in post myocardial infarction pts. Except ACEI (70.6% vs. 69.5%) drugs such as ASA, LBA, statins were more frequently applied in secondary prevention group when compared with primary prevention pts (respectively 54.9% vs. 85.8%, 41.9 vs. 77.0%, 53.8 vs. 79.4%). Underweight pts received fewer recommendations concerning regular physical activity, dietary counseling and weight loss when compared with obese pts (respectively 80.6% vs. 90.8%; 79.3% vs. 95.3%; 68.8% vs. 97.3%). CONCLUSIONS: The POLKARD-SPOK survey confirmed a high prevalence of modifiable risk factors and their inappropriate management, in patients with CVD or at high risk of fatal atherothrombotic events, treated in primary care settings.