for AD are simultaneously those for CAD, e.g. long-standing, unregulated arterial hypertension. Also, many symptoms and findings characterize both AD and AMI (strong) chest pain, dyspnoea, syncope, hypotension, etc. Thus, AD may mimic AMI. To the contrary, AD may cause AMI. AD can masquerade as or actually produce AMI, accordingly.

In the cornerstone document “Universal definition of MI,” it is stated that myocardial cell necrosis might occur in the absence of clinical signs of ischaemia (among others) in AD. Also in the ESC Guidelines for NSTE-ACS, AD was mentioned as a non-coronary condition with troponin elevation.

On the other hand, there have been numerous descriptions of direct influence of AD upon coronary artery, producing myocardial ischaemia/infarction by coronary artery: (i) compression (by false lumen); (ii) ostium obstruction (by intimal flap); (iii) dissection; and (iv) avulsion.

Neri’s classification has been useful, too. All aforementioned direct mechanisms suggest the decrease/cease of the coronary artery flow, with the consequent diminished myocardial supply (recognized as type 2 MI). Indirect mechanisms may be operative in AD too, leading to myocardial oxygen demand/supply imbalance (and type 2 MI, consequently): hypertension, arrhythmia/tachycardia and spasm (due to sympathetic/catecholamine surge) or hypotension and anaemia (due to aortic rupture/blood leaking).

There have been extremely rare reports (we found only two) suggesting even thrombus in a coronary artery in patients with both AD and AMI. Accordingly, chances for real type 1 AMI produced by AD are minimal.

To conclude, there is little doubt (if at all) that AD can cause AMI. If so, we suggest that aortic dissection should be listed as a possible cause of type 2 AMI.

References


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doi:10.1093/eurheartj/ehn430
Online publish-ahead-of-print 30 September 2008

Comment on ‘Comparison of operator radiation exposure with optimized radiation protection devices during coronary angiograms and ad hoc percutaneous coronary interventions by radial and femoral routes’

We read with extreme interest the paper by Brasselet et al. showing an increased radiation exposure for operators performing percutaneous coronary angiographies and interventions through the radial approach in comparison to the femoral approach. We believe the prospective, operator-blinded design and the careful acquisition of the radiation exposure data are major strengths of this study. However, there are limitations that in our opinion seriously undermine the conclusions of the manuscript, where the authors suggest reconsidering promptly the radial approach in light of their findings.

First, the non-randomized nature of this study is a major drawback and the authors did not do any effort to adjust statistically their results at least for the available variables collected. For example, body weight has been found to be significantly higher among patients in the radial group. Body weight can influence the total amount of X-rays needed to visualize properly the coronary arteries as the X-ray apparatus automatically increases or reduces the emission according to the impedance that finds from the body of the patient. An adjustment of the results according to the baseline data is needed in a study designed as a registry, and a regression analysis or a propensity matching analysis would be extremely welcome.

Secondly, no mention of the possible rates of crossover from femoral to radial access or vice versa has been made or considered, and this would be also important, mainly in an intention to treat analysis.

Thirdly, it is not clear whether the procedures were performed all in one room or in different rooms. The authors mention only that the cine-angiography units were the same and were all 9 years old; however, if located in different rooms, it is possible that a different rate of use of these machines could have had an impact on the results.

Finally, safety is a comprehensive issue, and radiation safety is only a part of the whole picture. Periprocedural bleedings after percutaneous coronary procedures threaten safety. Yet, no mention of the minimization of bleeding risks by the radial access and of its potential impact on overall patient safety is made in the analysis or discussion.

In conclusion, the radial approach has been repeatedly shown to have several benefits over the femoral access for coronary angiographies and interventions in thousands of patients. We believe that a single registry of 420 patients without a randomized design cannot prompt to reconsider the radial approach for these indications. On the other hand, seen the provocative results of this study and the expertise of the authors in radiation exposure measurement, we urge them to plan a prospective randomized comparison, setting radiation exposure as primary endpoint and using the results of the current pilot study to define a proper power analysis and an adequate sample size.
Aortic valve stenosis management: old strategies and future directions

We read with great interest the article by Descoutures et al. 1 We would like to congratulate the authors for this well-designed study but we would also add some brief comments. The aim of this prospective study was to detail the clinical characteristics and management of patients referred for severe aortic valve stenosis in a centre with on-site capabilities for either cardiac surgery or percutaneous valve implantation. Thirty-one patients underwent aortic valve surgery, 12 percutaneous valve implantation, and the remaining patients were medically treated. Mean Logistic-EuroScore for patients undergoing percutaneous treatment was 31 ± 14%. Out of 12 implants, 10 were successful. Besides all the complications, due to a learning curve, the authors conclude that this technique is a viable alternative in selected high-risk patients and should be considered within the scenario of aortic valve stenosis management.

With the aim to reduce the surgical invasiveness, we are currently using epidural anaesthesia maintaining an autonomic ventilation. 2 We selected 30 consecutive patients who underwent epidual-awake aortic valve replacement (47% females, mean age 78.1 ± 8.20% multi-vessel coronary disease, mean Logistic-EuroScore 28.3). Associated surgical procedures included coronary artery bypass grafting (17%), ascending aorta replacement (10%), and mitral valve surgery (10%). Unless emergency, no other exclusion criteria were considered. One patient died for an operative mortality of 3% and two patients during the follow-up (natural death). Concerning all other complications (stroke, no case; bowel ischaemia, no case; prolonged mechanical ventilation, two cases; and myocardial infarction, one case), these occurred rarely. Median ward stay and ICU stay were 4.5 and 1 day, respectively. Seven patients have been transferred to the ward within 3 h after surgery, and 19 patients within <12 h.

Descoutures et al. 1 suggest four different opportunities to treat a high-risk patient suffering aortic stenosis, stating that the final therapeutic decision should rely on clinical judgement based on a team approach. The main reason why percutaneous interventions are more acceptable by the patients is the simplicity. Unfortunately, interventional cardiologists and cardiac surgeons (team approach) are going to re-think the high-risk aortic stenosis management 3,4 without a well-founded clinical programme and forgetting the patients’ and economic-community interests. By using epidural anaesthesia we do not adjust any cost while we greatly reduce the need of ICU management, and on the other hand we have to consider that the percutaneous prostheses are sold at a cost 10-fold higher than a standard bioprosthesis. We maintain that percutaneous approaches should focus on coming up to the side of surgery, to support it in its current limitations such as by replacing deteriorated bioprostheses, avoiding the complications related to repeat heart dissection, or for patients suffering of porcine aorta.

Therefore, we would like to add to the four strategies suggested by the authors of the current paper 5 the opportunity to treat these high-risk patients even with the awake surgery strategy, extending the team approach for the final decision to the anaesthetist.

References


