On the basis of these observations, the role of impaired diastolic suction in the genesis of changes in right ventricular filling dynamics that we described during PTCA doesn’t seem to be supported by the available data.

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Serum lactate dehydrogenase activity: indicator of the development of pneumonitis induced by amiodarone

Many drugs including amiodarone are known to adversely affect the lung parenchyma. The incidence of this pulmonary toxicity is 5% to 10%[11]. It may take months to resolve after discontinuation of amiodarone due to the long half-life (up to 60 days)[11]. It is important to determine the risk for each patient to develop pulmonary adverse effects. However, until now no appropriate parameters indicating pulmonary side effects are available. We report an increase of the serum lactate dehydrogenase (LDH) activity prior to and during the disclosure of a drug-induced pneumonitis caused by amiodarone. A 72-year-old female was admitted to hospital because of complaints of shortness of breath. She was treated with amiodarone for 2 years because of a history of atrial fibrillation. A chest roentgenogram showed a diffuse reticulonodular pattern, indicative of interstitial abnormalities, which was confirmed by a HRCT. Bronchoalveolar lavage fluid (BALF) analysis revealed an increased number of cells, the presence of plasma cells and lipid-laden, ‘foamy’ alveolar macrophages. Culture remained sterile. Both in serum and BALF, the LDH level was increased. In serum mainly LDH1 and LDH2 were increased, whereas in BALF LDH1 and LDH4 were high. Moreover, the arterial $pO_2$ was decreased (63 KPa). All other laboratory tests — including liver function tests — were normal. The diagnosis drug-induced pneumonitis was considered based on the clinical picture and the BALF analysis results. After discontinuation of amiodarone, the clinical condition improved, in addition to the $pO_2$ and chest roentgenogram. Moreover, the serum LDH activity decreased gradually (Fig. 1). The extracellular appearance of LDH, a cytoplasmatic enzyme, indicates cell damage or cell death[3]. Although the increase in total serum LDH activity is rather nonspecific, measurement of LDH activity in serum, pleural effusion and BALF has been reported useful in monitoring pulmonary cell injury[3–4]. It has been suggested that the influx of inflammatory cells causes increase of LDH activity[3–4]. Like paraffins, the phospholipid inclusions — indicated by the ‘foamy’ appearance of the alveolar macrophages — are noncorrosive, but interact with pulmonary surfactant, which probably causes damage to the alveolar walls, and additionally, the alveolar/blood barrier[3–4]. This causes leakage of LDH from the pulmonary interstitium to the blood.

Remarkably, in this case, the high LDH activity was accompanied by shifts in the isoenzyme pattern in similar directions for both serum and BALF. The fact that this shift in serum resembles that in BALF, suggests that the major source of the serum LDH was the lung. The source of the LDH activity in the lung may be inflammatory cells, such as alveolar macrophages rapidly recruited to rid the lung of the phospholipid[5]. This case report highlights the promising role of serum LDH activity — a simple potential marker of disease activity — in monitoring and follow-up of drug-induced pneumonitis caused by amiodarone. Moreover, this determinant seems to be a sensitive marker to predict such reaction. An isolated increase of serum LDH indicates the necessity to discontinue amiodarone.

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References

Arginine consumption in coronary disease

We wish to make the following comments on the issue of the significance of arginine consumption in preventing coronary disease.

The importance of diet in the secondary prevention of coronary disease was recently reiterated by de Lorgeril and coworkers[13]. In their study, coronary patients of Lyon ate the Mediterranean diet consumed by the rural population of Crete as determined by the seven countries study[16]. The 76% reduction in clinical complications of coronary disease reported by the authors exceeds the benefit accrued by the most aggressive pharmaceutical lipid lowering intervention and suggests additional contributing factors. By using tables on amino acid content of food[19] we determined the daily arginine intake of the study group prior to the diet administration and following its application and arrived at 3.5 g and 7 g respectively.

We believe that by doubling arginine consumption, nitric oxide availability may have increased and endothelial dysfunction may have been corrected in these coronary patients. This would facilitate vasodilatation and fibrinolysis and mitigate blood coagulation, adhesion of leucocytes and platelets as well as smooth muscle cell proliferation.

Further more the work of Kromhout and coworkers enables us to examine whether arginine has a role to play in primary prevention of heart disease. Kromhout in a number of publications[5-7] correlated several dietary factors consumed by the original 16 cohorts of the seven countries study with their 25 years coronary heart disease mortality. Extending this correlation to arginine by using the tables on amino acid content in food[19] would show whether consumption of arginine by healthy middle-aged men is related to their long-term coronary heart disease mortality.

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[3] Paul AA, Southgate AT, Russel J. Mediterranean diet consumption, nitric oxide and heart disease mortality. Extending this correlation to arginine by using the tables on amino acid content in food[19] would show whether consumption of arginine by healthy middle-aged men is related to their long-term coronary heart disease mortality.

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