imaging data, also the maximal working capacity significantly increased in 80% of the patients during the follow up period of 90 days.

Also, first clinical experiences were reported regarding non-surgical, catheter-based angiogenic growth factor application.[21-24] Hendel et al. used intracoronary rhVEGF infusion in different doses in 14 patients;[21] they did not find a significant change in stress perfusion scores among the entire group, however, an improvement in global resting perfusion score was noted. Udelson et al. performed in a total of 59 patients intracoronary (n = 45) or intravenous (n = 14) administration of rFGF-2, resulting in an attenuation of stress induced ischemia (expressed as mean per-segment reversibility score) in all, and improvement in resting myocardial perfusion in 37 patients.[22] With regard to the alternative approach of intrapericardial instillation of growth factors,[23,24] there remain basic limitations because of imponderable diffusion and resorption of the growth factors, and also because of the high prevalence (80 – 90%) of prior CABG surgery in this group of patients, excluding the option for such a technique.[4]

In conclusion, the present study demonstrates at first the safety and feasibility of intramyocardial FGF-1 protein delivery as sole therapy for patients not amenable to PTCA or CABG surgery – that concerning as well the surgical procedure as the theoretical risk of eventual oncogenity of FGF-1. Secondly, there is justified incentive from these phase I data, that intramyocardial FGF-1 application is able to improve myocardial perfusion and maximal working capacity of the treated patients. Looking forward, from our point of view intramyocardial application of angiogenic growth factors could emerge to a new treatment principle either as adjunct to bypass surgery or as sole therapy for patients with advanced coronary artery disease. However, these concepts will require additional validation in larger clinical trials.

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