Conclusion

Dr. Hennerici: The task of summarizing what everyone has said in a 2-day workshop is always a little difficult. I shall just remind you that, at the start of this workshop, some of you may have had no clear-cut idea of what nutrition and stroke have to do with each other. Now that the workshop has finished, it is obvious that in both primary and secondary prevention (which, of course, also includes the rehabilitation period), nutritional aspects may play an important role which has not been thoroughly addressed before.

The relation between nutrition and stroke is, in my opinion, least obvious in the acute stroke situation, but nevertheless, there could be opportunities here for future discoveries. The most impressive possibility for further investigation is prevention, and I found it particularly interesting to hear that, at the moment, we have experimental models on the one hand and models of the genetics of hypertension in man on the other to investigate patients who are at particularly high risk for stroke, as opposed to what we have been doing for decades, which is to look at a mixture of several risk factors in an epidemiological approach and finally try to make a statement on the particular etiology of stroke in the individual subject. It may be far more conclusive to investigate in an animal model what particular stroke type is caused by a hypertensive condition over a certain period of time, and what could happen if the hypertensive condition is treated with drugs or alterations in nutrition. The same could be done in a group of patients with a particular genetic form of hypertension, examining the effects of other risk factors on the etiology of stroke and comparing this group of patients with a control group who had different strategies for reducing this primary etiological source. This is just an idea. The same could be true and has, to some extent, been pursued for patients with hyperlipidemia, or in a more chronic state, those with the hereditary form of microangiopathy, who are a source of major interest at present and who probably have quite a different etiology of hypertension, although they look fairly similar to subcortical vascular encephalopathy.

In the acute stage, we have heard that very similar tools are now available for experimental investigations and for examining patients clinically, and this is magnetic resonance imaging, used in perfusion and diffusion imaging. Although it is still difficult to place a patient in such machinery, it is possible and I am convinced that it will be done in the future. It will be most interesting to see whether certain observations in the experimental condition in the animal are similar in man or not, and whether therapeutic approaches that have been shown to reduce infarct size in the experimental situation hold true for man also because this is still the big gap. For decades, there have been experimental data to show that a number of drugs can reduce infarct size; the big question is, why don’t they work in the clinical situation?
If we concentrate on the particularly high-risk group of patients with a more monomorphic form of disease, and if we can identify the various pathologies, then I think there is a way forward for these patients too. Again, the nutritional aspects may be involved particularly in patients who are defined as at high risk before they get a stroke.

We now have better ideas about the risk factor profile, we have better noninvasive methods of identifying lesions in the vessels to the brain, and we can identify patients who already have signs of infarcts. Those are the patients who we should be studying, rather than a huge population where statistical data probably give us some idea about the population but not about the individual patient. So these are some of the ideas which have come to mind.

Now, on behalf of the German Stroke Foundation, Dr. Sitzer and myself would like to thank the Nestlé Research Center here in Lausanne for their help in preparing this meeting, and Dr. Guesry and Dr. Bauer in particular. People from different disciplines are represented here who would never have spoken to one another had not such a meeting brought them together, so I think we should also thank the members of the staff here, the speakers, and the audience for your interesting contribution to the discussions.