Introduction

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Ladies and Gentlemen,

It is a pleasure for us to meet so many experts and colleagues, interested in problems of xanthoma formation and other tissue reactions to hyperlipo-proteinemias.

The purpose of this Symposium is mainly directed at problems of basic research in this field. I see it as a most significant and valuable part of greatly intensifying efforts, in many countries, to learn more about this important group of diseases which are induced by disturbances of the lipoprotein metabolism, diseases, which – as you know – may have a poor prognosis for the patient in case they involve internal organs or the vascular system.

Striking clinical symptoms of these diseases for the patient and his doctor are xanthelasmas and xanthomas of the skin. Therefore, it seems logical that skin lesions have been described as first symptoms. In 1835, Rayer in Paris described yellow lesions on the eyelids as ‘plaques jaunâtres des paupières’. In 1851, Addison and Gull, London, gave a very fine description of different types of xanthomas under the name ‘Vitiligoidea’ (lesions which are similar to vitiligo). They also observed a combination of these skin lesions with disturbances of the liver function or with diabetes mellitus. In 1869, Frank Smith introduced the term ‘Xanthoma’ for the typical tumor-like yellow skin lesions; the name ‘Xanthelasma’ was given by E. Wilson in 1863 for the plane variants predominately on the eyelids (xanthos = yellow; elasma = lamina).

As we know today, a pure morphologic classification of the various types of skin xanthomas does not give any deeper insight in the pathogenesis of these diseases.

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In 1908, Pick and Pinkus observed that cholesterol is increased in patients with xanthomas. Progress was possible because of combined studies made by the internist Burger and the dermatologist Grütz, who in 1932 described the Hepatosplenomegale Lipoidose mit Xanthomen der Haut und der Schleimhäute’ in Leipzig. This is called Bürger-Grütz disease. Since that time, it has been known that xanthomas are not neoplasms, but the clinical manifestation of disturbances in lipid metabolism. Therefore, it was the most outstanding merit of Thannhauser and Magendantz in 1938 to give a new, valuable and prognostically important classification of these diseases. Based on thorough biochemical analyses of the blood lipid patterns of these patients, they divided these diseases into normolipemic, hyperlipemic and hypercholesterolemic xanthomatoses. Since not every case of this disease displayed typical xanthomas on the skin, the name ‘Lipidoses’ was created to more accurately describe this group of diseases. New progress in this field was made by the investigative work of Fredrickson, Levy and Lees in the USA as well as by Schettler’s group in Heidelberg, using new methods such as serum lipoproteinelectrophoresis and ultracentrifugation. They were able to demonstrate that, in

addition to disturbances of the plasma lipids, plasma lipoproteins were also involved in these diseases. Therefore, the name 'Hyperlipoproteinemias' was widely accepted.

Ladies and Gentlemen, as you know, various types of hyperlipoproteinemias complications for the patient may arise from involvement of internal organs, eyes, arteries or by deposits of lipids in skin or tendons. However, the pathodynamic of the genesis of these alterations are not well understood. In this connection, our Symposium was arranged to enlighten and to give a better insight into the pathogenesis of these diseases.

We want to find answers to such questions as the following: How is the penetration of pathological lipoproteins through blood vessel walls and through blood vessels into the surrounding tissue possible? What are cellular reactions to quantitatively or qualitatively changed lipoproteins? How does skin xanthoma formation occur? What happens with transformation or degradation of lipoproteins in atherosclerosis? What are our therapeutic approaches?

We are happy that so many colleagues have contributed to a successful meeting. Our thanks should be given to Hoffmann-La Roche, Basel, for their grant, which made possible the realization of this Symposium with participation of such a large group of guests.

We hope, that the proceedings of this Symposium which will appear in *Nutrition and Metabolism*, Vol. 15, No. 1-2 (1973) will spread knowledge for the benefit of our patients.