expected from a lymphato-venous anastomosis. If the main obstacle to the elimination of the excess lymph is a relative constriction at the orifice of the thoracic duct, then the transsection of the duct and the construction of a shunt with a new, wider opening may warrant a better lymph drainage. The advantage of this intervention would be that there is no water, electrolyte and, most importantly, protein loss from the organism. This is also the main ground for the criticism against the shunt operation. If there is no fluid loss systemic venous and sinusoidal pressures will not decrease and consequently ascites formation is not reduced[20,12]. In dogs with congested inferior cava vein, the venous pressure does not decrease significantly after the construction of a cervical lymphato-venous shunt, but the mean pressure in the thoracic duct decreases[14], signaling that there is no longer any obstacle to lymph flow, and consequently that the shunt has had a favorable effect. The effect is based mainly on the facilitation of the lymphatic transport of the excess capillary filtrate. In view of the encouraging clinical results, this intervention is indicated for the relief of ascites in some patients with liver cirrhosis. In an unpublished series of experiments it was proved that an ascites induced by the supradiaphragmatic constriction of the vena cava inferior can to a great extent be prevented by administration of the benzopyrone-preparation Venalot®.

Conclusion

by M. Földi

Research Laboratories Schaper & Brümmer, P. O. Box 61 1160, D-332 Salzgitter 61 (German Federal Republic, BRD).

The aim of the present report has by no means been to achieve complete covering of the subject. The intention of the initiator, Professor Mislin, was to create a Review of the current trends in Lymphology.

Canalicular lymphatic drainage and synergistic extralymphatic cellular plasma protein mastering are vital in the maintenance of the internal milieu of mesenchymal tissues. As these tissues are scattered, there is no organ the function of which can be understood – either in health, or in disease – if the lymphatic system is not taken into consideration.

SPECIALIA

The Structure of Isocedrolic Acid Isolated from *Juniperus squamata* Lamb.

Y. H. Kuo, S. H. Hsieh, S. T. Kao and Y. T. Lin

Department of Chemistry, National Taiwan University, Roosevelt Road Section 4, Taipei (Taiwan 107, China),
2 February 1976.

Summary. Isocedrolic acid isolated from *Juniperus squamata* Lamb. was established as 8s-hydroxycedrane-12-carboxylic acid by chemical and physical evidence.

Material and methods. In a previous paper[1], we described the isolation of α-cedrol, 8s, 14-cedrandiol, and a new compound 4-ketocedrol **1** from neutral fraction of a *n*-hexane extract of wood of *Juniperus squamata* Lamb. Now we isolated isocedrolic acid **2a** together with cedrolic acid[2], hinokiic acid, and widdringtonia acid II[3] from the acidic fraction of the same extract. Isocedrolic acid was discovered in *Juniperus procera*[4] in 1961, but its structure was still obscure. This communication describes the structure elucidation.

Result and discussion. Isocedric acid **2a**, m.p. 259 to 261 °C, $C_{15}H_{24}O_3$, $[\alpha]_D$ −24.8 (c. 0.5 in CH_3OH), exhibits IR-absorption bands at 3320, 3100, 2500, and 1670 cm^{-1}. It shows NMR-spectrum signals at τ_{CDCl_3} 9.04 and 8.85 (each of 3H, s, $=C(CH_3)_2$) and 8.74 (3H, s, $=C(OH)CH_3$). The structure of **2a** was suggested to be a derivative of cedrol by the similarity of its NMR-spectrum pattern with that of α-cedrol, except for the carboxylic acid group instead of a secondary methyl group. **2a** gave an amorphous product **3** by heating in 99% formic acid

[1] Y. H. Kuo, I. C. Yang, C. S. Cheng and Y. T. Lin, Experientia *32*, 686 (1976).

[2] K. H. Baggaley, H. Erdtman and T. Norin, Tetrahedron *24*, 3399 (1968).

[3] J. Runeberg, Acta chem. scand. *14*, 1985, 1991 and 1995 (1960).

[4] E. Pettersson and J. Runeberg, Acta chem. scand. *15*, 713 (1961).