and muramidase the occurrence of higher amounts of common α- and β-1.4-glucosidic linkages in neutral or acid polysaccharides might be excluded.

The supposed *lipids* (some unsaturated lipids are osmiophilic and PAS-positive) seem not to belong to common neutral fat or lecithins since no pronounced splitting was observed with lipase or 'phospholipase C'.

The excystment is induced externally by protein splitting enzymes (pepsin + trypsin) which has been confirmed in this study. Excystment has also been observed after treatment with bile, which normally contains protein and carbohydrate splitting enzymes, but also in enzyme free systems[3]. Thus the question whether excystment is an active internal process or not has been discussed[11]. Active internal processes have already been described in other connections with the life cycle of *Fasciola hepatica* when the miracidium emerges through the opening of the eggshell with the aid of a 'hatching enzyme' supposed to have protein splitting properties[12]. Whether the process of excystment depends upon external or internal factors, protein appears to be an important component in the material of the pore.

Conclusion. The effect of protein, carbohydrate and lipid splitting enzymes on the cyst wall of isolated metacerkariae from *Fasciola hepatica* seem to show that at least parts of the outer layer contain fairly resistant protein in which aromatic, basic amino acid, leucine and glycine could be components. The occurrence of acid carbohydrate(s) belonging to the group of hyaluronic acid or chondroitin sulphuric acid A or C in the inner layers is possible.

Zusammenfassung. Die Wirkung von protein-, kohlenhydrat- und lipidspaltenden Enzymen auf die Wand von isolierten Metazerkarien aus *Fasciola hepatica* scheint zu zeigen, dass wenigstens Teile der äusseren Schicht aus ziemlich resistentem Protein, das möglicherweise aromatische, basische Aminosäuren, Leucin und Glycin enthält, bestehen. Das Vorkommen von sauren Kohlenhydraten, insbesondere von Hyaluronsäure oder Chondroitinschwefelsäure A oder C in den inneren Schichten ist wahrscheinlich.

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Royal Veterinary College, Stockholm (Sweden), July 30, 1965.

[11] K. E. Dixon, Nature *202*, 1240 (1964).
[12] W. B. Rowan, Exp. Parasitology *5*, 118 (1956).
[13] P. D. Boyer, H. Lardy, and K. Myrbäck, *The Enzymes*, 2nd Ed. (Academic Press, 1959–1963).

The Concentration of Lactic Acid in the Human Aqueous Humour is not Determined by the Metabolism of the Lens

In the human subject, there is indisputably a high concentration of lactic acid in the aqueous humour[1], which is very marked in comparison to the plasma level (A/P ratio above 2). This higher concentration does not appear attributable to the glycolytic metabolism of the crystalline lens, as demonstrated by the fact that similar values are observed in eyes with a transparent lens or with cataract, even hypermature cataract. It might be argued that, in cataract, there still persists enough metabolic activity to produce the high concentration of lactic acid.

We were therefore interested in measuring lactic acid in aphakic eyes. This could settle the dispute about the importance of the lens for the high lactic acid content in the aqueous humour.

Our investigations were carried out in 5 patients in whom extraction of the lens of one eye had been performed earlier, and who presented cataract in the other eye. In 4 cases, the intracapsular operation was carried out, in one case the extracapsular variant. In these cases, samples of aqueous humour could be taken practically simultaneously from both eyes, and this avoided the disadvantages of having to compare data relating to different subjects.

As regards the technique of taking samples of aqueous humour and the technique of determination of the lactic acid concentration, the reader is referred to our earlier publications on this subject[1–3].

As can be seen in the Table, there is no significant difference between the concentration of lactic acid in the

Lactic acid concentration in the aqueous humour of the anterior chamber of human eyes with monolateral aphakia. Under I are given the values from the aphakic eye, under II the values from the non-aphakic eye of the same subject. The values are given in m*M* per kg H_2O

Name	Age	Date and kind of operation	Lactic acid concentration	
			I	II
A. Nicola	71	June 1964. Intracapsular extraction	5.03	4.45
F. Gennaro	41	February 1964. Intracapsular extraction	5.23	5.18
D. Francesco	60	October 1962. Intracapsular extraction	4.35	4.78
L. Giacomo	66	March 1961. Intracapsular extraction	4.54	4.28
S. Margherita	70	July 1961. Extracapsular extraction	4.92	4.56
Mean			4.81	4.65
Standard deviation			± 0.31	± 0.34
t			0.94	
P			0.40	

[1] E. de Berardinis, O. Tieri, A. Polzella, and E. Rinaldi, Boll. Soc. ital. Biol. sper. *40*, 1235 (1964).
[2] E. de Berardinis and O. Tieri, Ann. Oculist. *194*, 411 (1961).
[3] E. de Berardinis, O. Tieri, A. Polzella, and E. Rinaldi, Boll. Soc. ital. Biol. sper. *40*, 1232 (1964).

aqueous humour of the human eye with aphakia and the other eye in which the lens is still present. The values for the lactic acid level which we have observed are within the limit of what is regarded as normal for the human aqueous humour.

Accordingly, in considering the factors causing the hyperconcentration of lactic acid in the human aqueous humour, one may now exclude the crystalline lens.

Riassunto. La concentrazione dell'acido lattico nell'acqueo anteriore di occhi umani afachici non differisce da quella propria di occhi contenenti il cristallino: è quindi inverosimile che l'iperconcentrazione della sostanza nell'acqueo possa essere attribuita alla glicolisi lenticolare.

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Basophilia in Sensitized Guinea-Pigs[1,2]

In normal guinea-pigs we found 0.6% basophil leucocytes (mean of 107 animals).

In guinea-pigs sensitized to dinitrochlorobenzene[3], (DNCB) we found at the end of sensitization 3.9% basophil leucocytes (mean of 28 guinea-pigs), at the end of sensitization with propionic anhydride[4] 4.05% (mean of 34 guinea-pigs), and at the end of the sensitization with citraconic anhydride[5] 3.0% (mean of 9 guinea-pigs).

The difference in the number of basophils in the guinea-pigs sensitized with the 3 substances is significantly higher than the number in normal guinea-pigs (Figure 1). Some sensitized guinea-pigs have shown a basophilia of more than 7%, in one of them we found even 25%.

A control group of non-sensitized guinea-pigs (irritation by daily rubbing with a knife and 4 injections of 0.05 ml olive oil in 12 days) did not show a basophilia.

Figure 2 shows the evolution of basophilia in 12 guinea-pigs during and after sensitization with propionic anhydride.

A significant augmentation is found on the 14th day of sensitization. Between the 16th and 18th day, the number of basophils decreases to the normal value.

The basophilia provoked by sensitization of guinea-pigs with simple chemical substances seems to have a general interest.

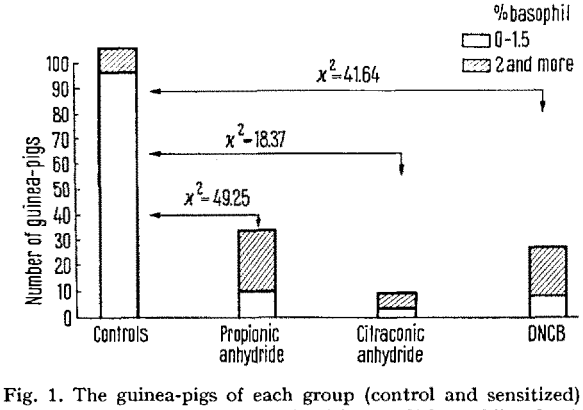

Fig. 1. The guinea-pigs of each group (control and sensitized) are distributed in two classes: animals with 0–1.5% basophil and animals with 2% and more basophil. The differences between the control group and the 3 groups of diversely sensitized guinea-pigs are highly significant (chi-square method).

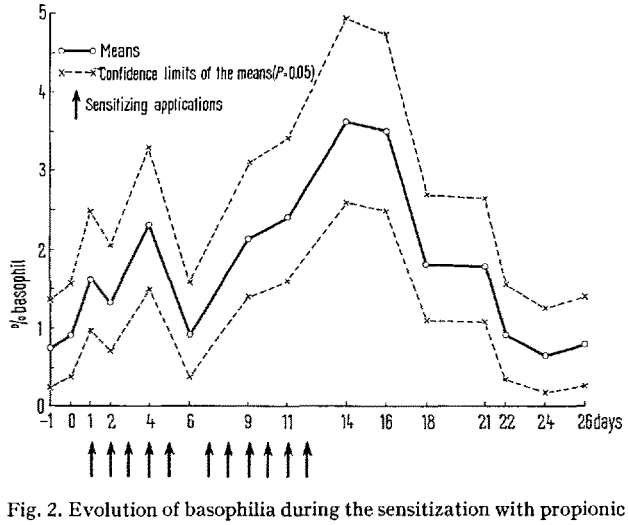

Fig. 2. Evolution of basophilia during the sensitization with propionic anhydride (12 guinea-pigs).

Résumé. Au cours de la sensibilisation du cobaye avec du dinitrochlorobenzène, de l'anhydride propionique et de l'anhydride citraconique, on constate une basophilie passagère.

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Clinique Universitaire de Dermatologie, Hôpital Cantonal, Genève (Switzerland), July 13, 1965.

[1] This work was aided by a subsidy from the Swiss National Fund for Scientific Research.

[2] Experimental Eczema. 25th communication.

[3] 11 applications of dinitrochlorobenzene in 1% of acetone, in 12 days – see W. JADASSOHN, E. BUJARD, and R. BRUN, J. inv. Derm. *24*, 247 (1955).

[4] 11 applications of propionic anhydride and 4 injections of 0.05 ml propionic anhydride in olive oil in 12 days – see N. HUNZIKER, Arch. klin. exp. Derm. *222*, 527 (1965).

[5] 11 applications of citraconic anhydride and 4 injections of 0.05 ml citraconic anhydride in olive oil – see N. HUNZIKER, Dermatologica *129*, 473 (1964).