

The lymph glands of Varese strain, with compact structures, survive for an even shorter length of time; thereafter part of the cells undergo processes of turnig black, which are similar to those that transform haemolymph cells into pseudotumours.

In this respect, it has been seen that the large haemolymph cells (CASTIGLIONI<sup>17</sup>), which have already aggregated to form tumours (Aspra 52 strain) and are kept in a culture for 15 days, are subject to progressive melanization. Also other workers, who have tried to cultivate melanotic tumours, have observed a progressive expansion of melanization in cells near the tumour (KURODA and TAMURA<sup>18-26</sup>) or in cells which have migrated into other tissues from the tumour itself (FRIEDMAN and BURTON<sup>26</sup>, FRIEDMAN et al.<sup>27</sup>) without this proving that there was any cellular multiplication. In our experiments, in one culture alone was a bridge formed of living cells (some probably in mitosis) between two fragments of tumours.

While admitting the preliminary nature of the present research, we believe we can point, as being of some interest, to the results obtained by us up to date, especially those on ganglia, both for the relatively long survival period and for the documented growth through mitotic divisions. This preliminary research will allow us next to try to obtain clone cultures on culture media kept under the strictest control.

**Riassunto.** Gli autori riescono ad ottenere la sopravvivenza in cultura di gangli cefalici larvali di *Drosophila melanogaster* per oltre un mese, con mitosi durante la 2<sup>a</sup> e 3<sup>a</sup> settimana, mentre le ghiandole della linfa si mantengono vive solo per 10-13 giorni.

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### Stretching Activity in Dogs Intracisternally Injected with a Synthetic Melanocyte-Stimulating Hexapeptide

In dogs, intracisternal injections of highly purified ACTH preparations induce typical, prolonged, and repeated stretching crises<sup>1,2</sup>. Similar effects are caused by purified MSH preparations<sup>3</sup> and by solutions of ACTH made with NaOH N/10 treated at 100°C for 20 min<sup>2</sup>. These findings suggest that the chemical groups eliciting the stretching responses are related with those stimulating melanocytes. This correlation is supported by results obtained with dogs given intracisternally the acetate salt of the synthetic hexapeptide H Glu(NH<sub>2</sub>)-His-Phe-Arg-Try-Gly-OH with MSH-like activity. 750  $\gamma$ /kg or less of this peptide (given intracisternally) evoke stretching responses similar to those following injections of MSH or ACTH. 1.5 mg/kg of the peptide causes lasting depression and scialorrhea but not a stretching crisis.

The melanocyte stimulating effect of the peptide is  $2 \times 10^5$  U/g<sup>4</sup>; that of a purified MSH preparation (732179 A by Armour Laboratories, Chicago, Ill.)  $5 \times 10^8$  U/g. The threshold dose for the stretching response was respectively 500 and 5  $\gamma$ /kg: indeed these two different pharmacological actions are strictly related. The hexapeptide, but not MSH, shows a paradoxical behaviour and a pharmacological response evoked by the polypeptide may change qualitatively with respect to the dose given intracisternally.

The Figure illustrates a typical stretching crisis in a dog injected intracisternally with the hexapeptide.



A typical stretching crisis in a dog injected intracisternally with the melanocyte-stimulating hexapeptide

**Riassunto.** La iniezione endocisternale nel cane di dosi fino a 0.75 mg/kg del sale acetico dell'esapeptide H.Glu(NH<sub>2</sub>)-Ist-Fen-Arg-Tript-Gli.OH, svolgente un'attività melanoforo-stimolante della intensità di  $2 \times 10^5$  U/g, induce delle tipiche crisi di stiramento, del tutto simili a quelle che si ottengono iniettando per la stessa via dell'ACTH o dell'MSH. Dosi di 1.5 mg/kg invece non inducono più crisi di stiramento ma deprimono notevolmente gli animali e determinano una intensa scialorrea. Sembra di poter ammettere che la struttura chimica responsabile dell'effetto sui melanociti sia anche responsabile dell'induzione delle crisi di stiramento.

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<sup>3</sup> W. FERRARI, G. L. GESSA, and L. VARGIU, Boll. Soc. ital. Biol. sper. 36, 375 (1960).

<sup>4</sup> R. SCHWYZER and C. H. LI, Nature, Lond. 182, 1669 (1958).

<sup>5</sup> We are indebted to Dr. R. SCHWYZER, CIBA Ltd., Basle (Switzerland), for the synthetic melanocyte-stimulating hexapeptide.

### The Effect of Parabiosis and Fluid Restriction on the Development of Azo Dye Induced Rat Liver Tumors<sup>1</sup>

CAMPBELL and STONE<sup>2</sup> have shown that slices of liver tumor synthesize 1/3 to 1/2 the amount of serum albumin produced by slices of normal liver. GLINOS<sup>3</sup> has provided evidence that depletion of the plasma protein level by plasmapheresis can accelerate liver regeneration in the rat and that fluid restriction retards liver regeneration by increasing the relative concentration of plasma proteins.

<sup>1</sup> This research was supported by a grant from the National Science Foundation (6139) and an institutional grant from the American Cancer Society.

<sup>2</sup> P. N. CAMPBELL and N. E. STONE, Biochem. J. 66, 19 (1957).

<sup>3</sup> A. D. GLINOS, *The Chemical Basis of Development* (The Johns Hopkins Press, Baltimore 1958).