A Penicillin-like Substance from *Aspergillus giganteus* Wehm.

THE production of antibiotic substances by several species of Aspergillus has been reported, and several have been purified or isolated[1–5]. Wilkins and Harris[6] described the production of a substance, active against staphylococci, by *Aspergillus giganteus*. A culture of the mould (kindly supplied by Dr. Wilkins) was grown on a medium consisting of malt extract, 2 per cent, peptone, 1 per cent, *M* triethanolamine buffer *p*H 8·2, 5 per cent. The antibiotic has been purified and a crystalline degradation product prepared. In all its chemical and biological properties it appears to be very similar to penicillin[7].

Although the mould produces much less pigment than *Penicillium notatum*, the yield of the antibiotic is lower and the purification no easier than that of penicillin.

It is suggested that this substance be called *gigantic acid* to indicate its source.

It is of interest that the production of antibiotics chemically similar to penicillin is not limited to the genus Penicillium, but that they are produced by at least two species of Aspergillus, namely, *Aspergillus giganteus* and *Aspergillus flavus*[3,4].

Full details of this work will be published when publication conditions permit. I am indebted to the Agricultural Research Council for a personal grant.

FLORA J. PHILPOT.

Sir William Dunn School of Pathology,
University of Oxford. Nov. 10.

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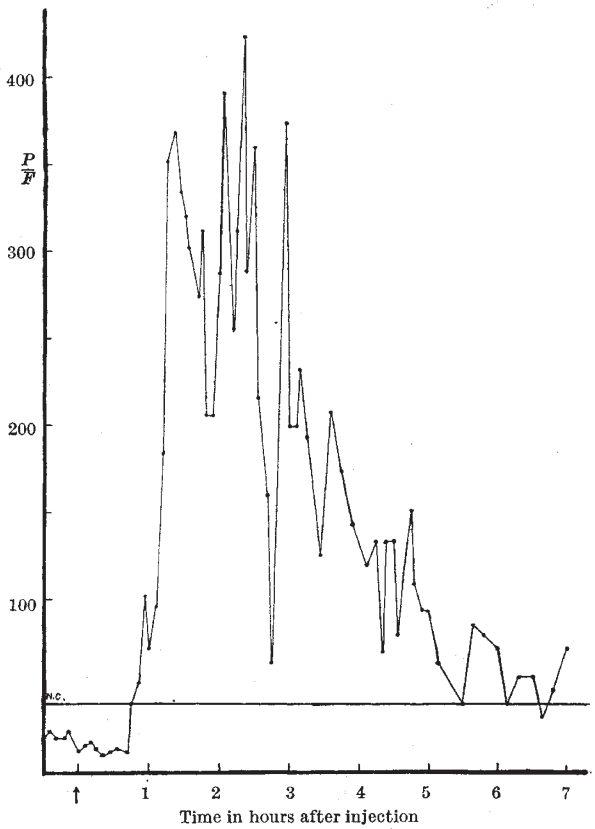
Lipæmogenic Activity of Pituitary Extracts

Frazer and Stewart[1,2] have described the chylomicron count method for assessing the level of blood-fat, and have used it to follow the effects of starvation and standard meals in man. Stewart[3], using this method, has also observed lipæmias in rabbits after severe hæmorrhage.

In the course of some experiments on rabbits we have noticed that lipæmias have frequently followed the subcutaneous injection of certain extracts prepared from pituitary glands. The work has now been discontinued, at any rate for the time being, but we have thought it worth while briefly to record our own observations as to the frequency with which these lipæmias occur and the courses they run.

The most striking feature is the extreme variation in their intensity. Thus, 27 rabbits were injected with the same amount of a pituitary extract; 4 showed no lipæmia, 21 gave maximum chylomicron counts between 5 and 10 times the normal, while 2 animals developed lipæmias so intense that they were visible to the naked eye, the particles being too densely packed to be counted. The accompanying figure illustrates the characteristic course of the lipæmia in one rabbit. Counts were made every five minutes for four hours following the injection, then at ten-minute intervals for one hour and again at five-minute intervals for a further two hours. Whenever the lipæmia could be assessed by this method, that is, in the 21 rabbits mentioned, it began between forty and fifty minutes after injection and rose rapidly to a maximum during the next thirty minutes. In animals giving the higher counts the lipæmia was sustained for an hour: there followed a general decline in count such that normal values were reached five hours after the injection, though transitory small increases occurred during the fall and for a further two hours.



$\frac{P}{F}$ = particles per microscope field; ↑ indicates time of injection; *N.C.*, average pre-injection 5 mm. chylomicron count of 21 starved rabbits.

Marked fluctuations in the chylomicron count occurred throughout the period of observation; it was, however, noticed that the ascending portions of the curve were invariably steeper than the descending, especially during the period of maximum lipæmia. We incline to the view that this phenomenon occurs because the particles are injected into the circulation through the thoracic duct. Further, the general course of the curves suggests that fat is entering the circulation by this route for at least one hour after the initial rise.

The extracts used were prepared from desiccated frozen whole sheep pituitaries. They were good sources of thyrotrophin and gonadotrophin, but had been substantially freed of prolactin, containing less than 5 per cent of the quantity extractable from the equivalent weight of dried gland. The extracts also showed appreciable pressor and oxytocic activities.

The extracts were further found to be a potent source of the factor that raises the liver-fat content of adult guinea pigs. Control extracts prepared from sheep muscle raised neither the fat content of guinea pig livers nor the chylomicron count of rabbit blood. We therefore regard the experiments reported here