tion completely paralyzed by GABA (10^{-4} M) (fig. E). From the relationship between pyrantel and its antagonists such as d-tubocurarine and GABA, it is suggested that this anthelmintic has a high affinity and/or potent intrinsic activity against the cholinoceptors in *A. cantonensis*.
In conclusion, the results in *A. cantonensis* together with those in *A. suum*[3] provide strong evidence that pyrantel acts as an antinematodal anthelmintic through stimulating the nicotinic cholinoceptors in parasitic nematodes.

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Effect of 5,7-dihydroxytryptamine on Auerbach's plexus in the ileum of guinea-pig[1]

M.A. Qayyum

Department of Anatomy, College of Medicine, King Saud University, Riyadh (Saudi Arabia), January 24, 1983

Summary. Action of 100 mg/kg of 5,7-dihydroxytryptamine on Auerbach's plexus in the ileum of the guinea-pig has been studied using Falck and Hillarp's formaldehyde condensation technique. The drug caused partial disappearance of the adrenergic nerve profiles initially but after 10 days of treatment all the lost fibers reappeared.

6-Hydroxydopamine causes long lasting depletion of noradrenaline from the peripheral tissues, but adrenergic ganglia are significantly less sensitive to its action[2-4]. However, little is known about the action of 5,7-dihydroxytryptamine on the peripheral tissues[5,6]. In the present investigation the effect of this drug on Auerbach's plexus in the ileum of the guinea-pig has been studied.
Guineapigs weighing 250–300 g were used in the present investigation. 100 mg/kg of 5,7-dihydroxytryptamine, dissolved in 0.9% saline containing 0.1 mg/ml of ascorbic acid was injected i.p. into 6 guinea-pigs. The rest of the animals were given the same amount of saline, containing ascorbic acid only. Guinea-pigs were killed by cervical dislocation 24 h, 48 h and 10 days after the drug administration. One control animal was also sacrificed at each interval of the treatment. Small pieces of the ileum were dissected out. Their longitudinal smooth muscle layer was carefully separated from the wall of the intestine, with Auerbach's plexus attached, and the pieces stretched on slides. The stretch preparations were dried over phosphorus pentaoxide and exposed to paraformaldehyde vapor at 80 °C for 1 h. The preparations were mounted in liquid paraffin and examined using a Leitz Orthomat Fluorescence Microscope using routine filters (excitation filter BG 12 and barrier filter 530/nm). For comparing the effects of 5,7-DHT with 6-hydroxydopamine(6-OHDA) 100 mg/kg of this drug was given to a few guinea-pigs in the same way as described above, and samples treated similarly.
Auerbach's plexus lies between the longitudinal and circular smooth muscle layers and is made up of small ganglia

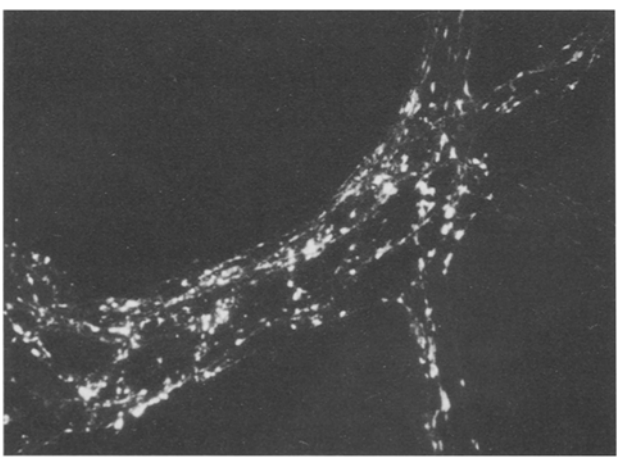

Figure 1. Photomicrograph of Auerbach's plexus in the ileum of an untreated guinea-pig exhibiting a network of varicose adrenergic nerve fibers. Intramural nerve cell bodies can be seen as black oval patches in between the adrenergic nerve fibers. × 15.

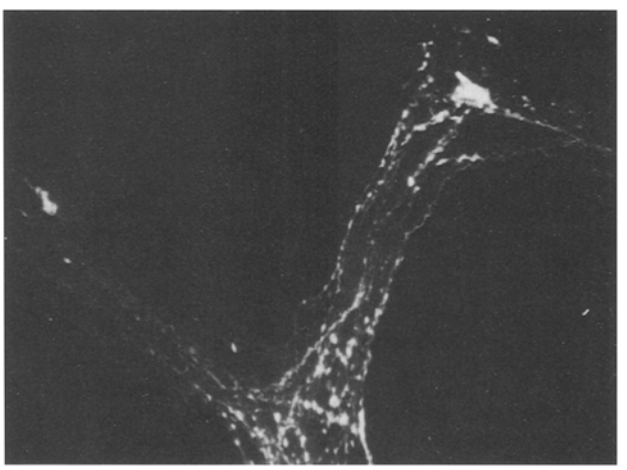

Figure 2. Photomicrograph of the stretch preparation of Auerbach's plexus 24 h after 5,7-DHT treatment. A few fibers are very swollen and some of the fibers have disappeared. × 11.

which are connected with each other by internodal strands. Plenty of bright fluorescent adrenergic axons could be localized. A network of varicose nerve fibers is seen all over the ganglia and the internodal strands (fig. 1). The intramural ganglion cell bodies could be observed in between the varicose fibers as oval black patches. The action of 5,7-DHT is as follows;

24 h after treatment a few nerve fibers disappear and some of the persisting fibers become swollen. However, more than 50% of the fibers remain unaffected (fig. 2). 48 h after treatment a few more adrenergic nerve fibers disappear. 10 days after 5,7-DHT administration almost all the lost fibers reappear and the stretch preparations look almost similar to the control ones.

On comparing the action of 5,7-DHT with 6-OHDA it was noted that 6-OHDA could suppress the fluorescence of more adrenergic profiles than 5,7-DHT.

The findings of the present study suggest that treatment with 5,7-DHT was responsible for only partial disppearance of adrenergic nerve profiles, as more than 50% of the total population of the nerve terminals remained unaffected. It has also been shown that 6-OHDA is more potent than 5,7-DHT for chemical sympathectomy. The swelling of nerve fibers after 5,7-DHT and 6-OHDA might result from a building up of catecholamine within the preterminals, which is suggestive of block of axoplasmic flow of noradrenaline within the nerve trunks probably due to damage of the more peripheral terminal varicosities[3,4,7]. Intensely fluorescent preterminals with swollen and distorted bodies were induced by 6-OHDA treatment in Auerbach's plexus of ileum[8], colon[5] and oviduct[6], and in the atria, submaxillary glands and irides[9]. The accumulation of catecholamine within sympathetic neurons after axonal section or constriction has been reported[10]. The reappearance of adrenergic nerve terminals 10 days after 5,7-DHT treatment possibly demonstrated the process of regeneration. During the process of regeneration it appears that nerves regain the ability to take up norepinephrine more rapidly than their ability to store, retain or synthesize norepinephrine[11,12].

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Effect of general anesthetics on human granulocyte chemiluminescence

S. Lippa, P. De Sole, E. Meucci, G.P. Littarru, G. De Francisci and S.I. Magalini

Institute of Biological Chemistry, and Institute of Anaesthesiology, Università Cattolica del Sacro Cuore, Via Pineta Sacchetti 644, I-00168 Rome (Italy), November 17, 1982

Summary. The effect of general anesthetics on human granulocyte 'phagocytic capacity' was tested, both in vivo and in vitro, by means of chemiluminescence. Halothane and ethrane produced a consistent degree of chemiluminescence inhibition, which, in vitro, was clearly dose-dependent.

There is increasing evidence that exposure to anesthesia and surgery has important immunological implications[1]. A great effort has been made to assess the possible effect of general anesthesia on both specific immunity and nonspecific resistance mechanisms. Within the non-specific resistance mechanims the key role of phagocytosis is well established. Several studies have demonstrated the adverse effect of general anesthetics on the various steps of phagocytosis by polymorphonuclear leukocytes (PMN-L), such as mobilization[2] chemotaxis[3,4] transvascular diapedesis[5] and the final bactericidal events[6].

The aim of this paper is to investigate the degree of 'phagocytic capacity and related metabolic activation' in circulating PMN-L obtained from surgical patients under general anesthesia: this investigation and that of the in vitro effect of halothane and of ethrane on a purified suspension of PMN-L have been performed by means of chemiluminescence (CL).

It is now widely recognized a good correlation between PMN-L chemiluminescence and the 'respiratory burst'; indeed the oxidative microbicidal activity of PMN-L is associated with the generation of electronically excited product molecules: the relaxation to the ground state by photon emission results in the phenomenon of CL[7]. The use of high quantum yield molecules, such as luminol (5-amino-2,3, dihydro-1, 4-phtalazinedione), leads to an amplified CL response.

Materials and methods. Patients selected for this study underwent minor surgery operations. Peripheral venous blood was collected, in heparinized tubes (heparin: lithium salt) before general anesthesia (GA) and 1 h after the inducement of GA. Patients were anesthetized with ethrane (concentration: 1.5%) or with halothane (concentration 1%). The patients received no blood transfusion during the 1 h period of general anesthesia. PMN-L were separated from whole blood by the Ficoll-hypaque density gradient centrifugation followed by dextran sedimentation and 30-sec hypotonic lysis with 0.23% NaCl[8].

Isolated PMN-L were suspended in a modified Krebs Ringer phosphate (KRP) medium, pH 7.4 (without $CaCl_2$