Pain in Phantom Limbs

SIR,—In discussing the treatment of painful phantom limbs ("Any Questions?" April 24, p. 817) you rightly stress the disappointing results from such measures as excision of neuro-mata, neurectomy, posterior radicotomy, and stump remodelling operations. You conclude that "the management of these cases is distressingly difficult," but make no suggestion regarding treatment except to advise the patient to persist in the wearing of the prosthesis.

While it is quite true that many heroic surgical measures, including even chordotomy, tend to be ineffective in this condition, it should surely be noted that excellent results are often obtained following 1% procaine injection of the sympathetic nerve supply to the affected limbs,^{1 2 3 4} or even from local injection of nerve trunks and scar tissue. The benefit so produced frequently passes off within a short time, but the procedure can be repeated indefinitely and the periods of remission tend to become longer, so that complete cure may result from three or four injections.

It is commonly held that, while phantom sensations are of almost universal occurrence after amputation, actual pain is comparatively rare. In a small series which I have recently studied closely⁵ it was found that bouts of pain, sometimes extremely severe, commonly occurred during the first six months after operation. The intensity and frequency of these painful episodes generally diminished with the passage of time, so that by the end of a year or so symptoms were not serious enough to demand treatment other than explanation and reassurance. With only one exception none of these patients has sought advice for symptoms which, although distressing, appeared to them to be so unreal and fantastic as to suggest that they were the product of disordered imagination. One very intelligent subject remarked, "I did not report sick, because I did not expect a doctor to treat a ghost."

It may therefore be that phantom pain is very much more common than is generally believed, and that we are called upon to deal with only that minority of patients in whom spontaneous remission does not occur and who are accordingly driven to seek advice. Amputation inevitably implies nerve injury, and it is therefore reasonable to suppose that in a certain proportion of cases a condition may develop which is directly analogous to the causalgia which sometimes results from other nerve injuries.^{6 7} Pain so caused is registered in the sensorium in terms of the established "body image"⁸ and so is interpreted as being felt in the phantom.⁹

The persistent symptoms experienced by such patients are very real indeed, despite the frequent paucity of demonstrable abnormality in the stump, and they may lead to complete breakdown of physical health and emotional stability, as in one unfortunate case in my experience. Therefore, although the difficulties and disappointments in treatment are realized, it is suggested that a largely nihilistic therapeutic approach is unjustified when simple methods of proven efficacy are available.—I am, etc.,

J. DONALDSON CRAIG.

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Treatment of Pruritus Ani

SIR,—The variety of methods of treatment and the frequent therapeutic failures in pruritus ani are probably due to a lack of recognition of the fundamental cause of the complaint. This cause, however, is always the same. It is the exposure of the perianal skin to particles of faecal matter. The perianal skin normally possesses a specific resistance against the irritation set up by adhering particles of faeces following defaecation. Occasionally, however, this resistance breaks down. This usually happens in middle and old age, more seldom in younger individuals, and practically never in the young and adolescent. Once an irritation has set up, there develops a vicious circle. The irritation gives rise to scratching and excoriation, the faecal particles penetrate into the crevices of the damaged skin and

aggravate the irritation, and so it goes on until a kind of perianal eczema develops.

The rational treatment therefore has to be both palliative and causative. The most suitable palliative treatment proved to be radiotherapy. Three doses of 100 to 150 r at weekly intervals of a radiation produced at 90 to 100 kV and filtered through 1 mm. of aluminium are usually sufficient to clear up the eczematous condition. In some cases a fourth treatment after one more week may be required.

The treatment is best given with the patient in the knee-elbow position and the buttocks pulled apart so as to expose the anal region. The width of the field depends on the extent of the skin involved. When large fields are used it is necessary in male patients to protect the testicles by a sheet of lead or lead-rubber.

The causative treatment, which should be begun at once, consists in washing with soap and water the anal region after every defaecation. Not only must the surrounding skin be washed, but the lining of the anus must also be cleaned by pushing the soaped finger inside it. All traces of soap must be rinsed away with water, the skin dried, and a dab of calamine lotion applied to the area. This treatment must be rigorously carried out indefinitely if recurrences are to be prevented.

This treatment has been uniformly successful in over 50 cases of pruritus ani. The few recurrences observed occurred only where the patient omitted to carry out the washing, and a final cure was achieved when regular washing was resumed. Mild cases may yield to washing alone without x-ray treatment. Occasional irritation may be relieved by one or two applications of "nestosyl" ointment.—I am, etc.,

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ALEXANDER ORLEY.

D.D.T.

SIR,—In the leading article entitled "D.D.T. in Use" (April 3, p. 648) you list the drawbacks of this insecticide and discuss briefly the ways in which these may be overcome. One or two points were made, however, which, we venture to suggest, require further consideration.

It was stated that D.D.T. is apparently lethal to all insects and acarines. That is, in our opinion, a somewhat arbitrary statement, as D.D.T. is certainly not lethal to all acarines—the glasshouse red spider being a case in point—nor is it toxic to all insects. Much work will have to be done before anything like complete information is available as to the relative toxicity of D.D.T. to arthropods in general, but with our present knowledge and methods of formulation your statement is incorrect.

The several problems of irritancy, the lag in acquiring a lethal dose, and the non-persistence of D.D.T. have to a considerable extent been overcome with those insects susceptible to it by scientific formulation and new and improved methods of application. One of us (F.G.S.W.), while carrying out trials at the Royal Naval School of Tropical Hygiene, Colombo, and later in this country, obtained excellent results against flies, mosquitoes, cockroaches, and bedbugs using the new activated emulsions evolved by Dr. H. Hurst, with greatly improved knock-down and residual toxicity. Using these emulsions there is little possibility of mosquitoes escaping from rooms with non-lethal doses, and the residual toxicity against cockroaches (among the most resistant of insects) has been proved to be effective for six months or more in such unfavourable surroundings as canteens and kitchens. Comparably good results have been obtained against flies on cattle.

The work of Twort¹ on heat volatilization of germicides has established the method of the production of insecticidal aerosols by a similar means. A continuous aerosol of D.D.T. produced by controlled heat at the rate of 20 mg. per hour per 3-5,000 cu. ft. (85-141 cu. m.) will give a complete knock-down of many diptera within 30 minutes or less. Furthermore, by this method the use of solvents is obviated and any loss of efficiency due to supersaturation is eliminated. What is of extreme importance is that a film of crystalline D.D.T. is continuously being deposited on all surrounding surfaces, and those which are highly porous will tend to have losses by absorption balanced by the continuous deposit of the aerosol. Even fabrics hung in a room in which a continuous-phase aerosol is being produced will, in time, become toxic to clothes moths.

With regard to cattle, field trials carried out last summer showed that the application of continuous-phase aerosols in the sheds for periods of as little as three hours daily gave immunity from biting flies both in the byre and at pasture.

The irritant effect of D.D.T. when not specifically formulated for quick knock-down may not in all cases be as harmful as may at first be apparent. Col. J. W. Scharfe, R.A.M.C.,