knowledge of these changes, however meagre such may be at present, controls and guides us in the treatment of this common but really complex disorder in infancy.

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AN ATROPINE TEST IN ASTHMA

BY

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Among the drugs used in the treatment of asthma, atropine has always held a prominent place, but its therapeutical value has been found to be much less constant than that of adrenaline. Atropine acts, presumably, by paralysing the nerve endings of the vagus, and so preventing stimuli from the vagus centre reaching the bronchial muscle. Broncho-constriction has been shown to result from stimulation of the upper respiratory tract—that is, reflex stimulation of the bronchial muscle through the vagus centre. In many cases of asthma the treatment of nasal abnormalities has been sufficient to abolish attacks, which would suggest that these attacks were of "nervous" origin. It is also acknowledged that psychical stimuli in some patients play a considerable part in inaugurating a spasm. Since atropine prevents nervous stimuli from reaching the bronchial muscle, it has been thought that it might be used to differentiate between broncho-constriction due to reflex stimulation of the vagus and that due to direct stimulation of the bronchial muscle—that is, between nervous and chemical stimulation.

By using the method introduced by McDowall and Thornton (1930) for recording the movements of the isolated bronchi, it has been shown that contraction of the bronchial muscle follows the injection of pilocarpine, and that a small dose of atropine immediately after produces complete dilatation. A second dose of pilocarpine now produces no result, but a very small dose of histamine still causes the muscle to contract. Histamine is supposed to act directly on muscle, while pilocarpine acts through the nerve endings. Similar contractions are obtained by injecting other substances known to act directly on the muscle. The amount of atropine injected was small (0.13 mg.), as larger doses may paralyse the muscle itself.

The usual method of administering atropine in asthma is as tincture of belladonna in a mixture to be taken by the mouth, but the unpleasant dryness of the mucous membranes and the effect on the pupil prevent its continuous use. As a method of estimating the part played by nervous stimuli in inaugurating broncho-spasm, a full dose of atropine might be injected subcutaneously at the onset of an attack. In those cases where contraction of the bronchial muscle is due to direct chemical stimulation of the muscle, atropine would be expected to have no effect, whereas, in the truly nervous type the attack would be aborted. In this way the patients whose attacks are due to psychical stimuli alone could be differentiated from those who owe their symptoms to a fundamental chemical alteration of the blood.

I wish to express my thanks to Professor R. J. S. McDowall, who suggested this method of differentiation.

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Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

FOUR GENERATIONS OF HETEROSEXUAL TWINS WITH PREPARTUM AMENORRHOEA IN TWO GENERATIONS

The genealogical tree shown below is that of a woman who was admitted to hospital on account of twin pregnancy and a mild degree of albuminuria. She was 22, and had never menstruated. Her twins were of opposite sex. Inquiry revealed that this was the fourth generation of heterosexual twins, and that the patient's mother had also had amenorrhoea up to the time of her first pregnancy at the age of 20.

I am indebted to Dr. C. J. Penny for permission to publish this case.

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BILATERAL HERPES ZOSTER

Since Darier has stated that herpes zoster is almost invariably unilateral (*Précis de Dermatologie*, 1918) and Sutton (*Diseases of the Skin*, 1928) makes the same observation, but notes that bilateral cases have been described by Fordyce (*Journ. Cut. Dis.*, 1915, 319) and Howard Fox (*ibid.*, 1915, 492) this case which—was recently under my care would seem worthy of publication.

A healthy man, aged 21, consulted me on June 15th, 1931. He stated that on June 12th he felt ill, had a sore throat and a headache, and thought that he had a temperature; as he felt no better on the following day he stayed in bed. On June 14th he had some pain behind the right ear, and later in the day noticed the eruption on account of which I was asked to see him. At this time there were well-marked herpetic vesicles on an area the size of a florin over the right parotid gland and over the outer surface of the pinna of the right ear; he had a temperature of 101° F. He was ordered to stay in bed, and was given sodium salicylate internally and a dusting powder for external application.