

an accurate determination of the sensitizing bacterial protein means almost certain relief. Walker reports 90 per cent. of such cases relieved, the balance greatly improved, and only one case not improved.

Taking the general run of asthmatic cases with all kinds of sensitizations, only about 50 per cent. respond to the skin tests positively, and only 17 per cent. of these are sensitive to bacterial protein, according to Walker's findings in a series about 200 sensitive cases. In the 50 per cent. which are non-sensitive, a definite determination of the offending protein is practically impossible. Clinical experience, however, has demonstrated that at least half of these are due to bacterial protein sensitization, for they are relieved by the administration of autogenous vaccines made up from their sputums. Walker classifies the balance also as of bacterial origin, but undetermined. The probabilities are that the offending organisms are lurking elsewhere than in the respiratory tract. The tonsils and teeth and accessory sinuses must be examined with the hope that bacterial infection there may be the source of the protein sensitization in some of these. Danysz, of Paris, reports cures with vaccines made up from the bacterial flora in the intestinal tract. The seat of infection and protein sensitization may even be in more inaccessible regions, as in the abdominal viscera. At any rate, cases have been suddenly cured by gall bladder operation, or by an appendectomy. I have seen one case where the trouble was in the endometrium and a curettage gave relief. And

Walker reports a case of hernia, the repair of which gave relief. A recurrence of the hernia brought about a relapse of the asthma and a second repair brought relief again.

The treatment of bronchial asthma of bacterial origin consists of:

First. In common with other types, measures to give the patient relief during the attack.

Second. Desensitization against the offending bacterial protein.

Third. Treatment of the infection, both primary and secondary.

To give the patient relief while suffering an attack is of first importance. The efficacy of adrenalin for that purpose is well known. Dr. Peshkin of Manhattan and I have tried out, in the Immunotherapy clinic of the Polvelinic Hospital a mixture of adrenalin and pituitrin. In doses of four or five minims of each, we found that the effect which adrenalin alone gives is delayed from five to ten minutes, but the desired action is immeasurably prolonged. Pituitrin seems to prolong the action of adrenalin. The pulse was invariably lowered. Blood pressure readings were very variable, increased in some cases and lowered in others. One injection a day is sufficient to control a severe case. One every other day a moderately mild one. The use of this mixture is contraindicated in cases with hypertension. We also noted that with the administration of this mixture vaccines seemed to gain a better hold. This may be due simply to the fact that the endocrine control of the spasm saves the patient from the lowered resistance induced by the attack, and he