VACCINES IN THE TREATMENT OF ASTHMA.

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In the June 26, 1915, number of the *Journal A. M. A.* Babcock furnished a very valuable paper showing the causative relation of asthma to an infected focus in some part of the body, usually the respiratory tract, and that vaccine treatment is the most logical procedure. He clings to autogenous vaccines, evidently because stock preparations have not been given a fair trial in these cases, on the ground that they are not sufficiently scientific. He even points out that in many cases it is difficult to carry out this method of treatment, because the focus of infection may be obscure. From this, we would infer that he considers the finding of the focal infection primarily necessary so organisms may be procured for the purpose of making an autogenous vaccine, and that vaccine treatment is not instituted until an autogenous vaccine can be prepared from organisms found in some infected focus. He states that this procedure is surrounded with possible failure because the organism thus found may have not caused relationship to the disease, in which case repeated bacterial examinations are recommended for the purpose of making autogenous vaccine until, if possible, a vaccine made from an organism that will give the desired results is found.

This is the attitude of autogenous vaccine advocated generally and reflects the desire of an exact scientific procedure in doing things. This in itself is very commendable, but it so happens that many things in life are of such a nature that what appear scientific, upon closer examination, is found deficient in many details. It is only by utilizing all the available factors which bear on the attainment of a certain object that constitutes the treatment of the matter in hand scientifically.

In treating a case of asthma, the object is to cure the case, permanently, if possible, in the shortest space of time, and any procedure which will accomplish this is scientific.

A large majority of asthmatics suffer with bronchitis, and are subject to taking colds. The organisms that are responsible for bronchitis and colds are well known. It is also known that sinus

infections and other focal infections are caused by the same organisms; and, with a few exceptions, and in the absence of an influenza epidemic, a comparatively small group of organisms is responsible for the persistence of these troubles, including the pneumococcus, streptococcus, Freidlander bacillus, micrococcus catarrhalis and staphylococcus. Mixed infections by these organisms is common, and from experience we know that just as good immunizing responses are obtained to infections by any one of these organisms by inoculating a vaccine containing all of them as if only the vaccine corresponding to the infecting organism had been employed. Where single organism infections exist, mixed infections practically always develop if immunization to the other organisms has not taken place, and by using a mixed vaccine such prophylactic immunity in addition to a therapeutic immunity to the germ or germs causing the infection will be established. After taking into account all these facts can the giving of a mixed vaccine be considered unscientific? Is it unscientific to employ measures that will prevent infections which are liable to take place while the existing infection is being cured? Here the crucial test comes in applying the remedy to attain the object in view, and from what experience teaches, in the treatment of asthma with a mixed vaccine, we certainly have reason to believe that this method is entirely practical. In our personal experience we have repeatedly cured most obstinate cases that had gone the round of other methods without obtaining relief. This experience has been verified by many other physicians. The underlying principle in treating asthma with vaccine is to permanently eliminate the focus of infection. Vaccine therapy offers the best means to this end, and carefully prepared stock vaccines give, with rare exceptions, as good, if not better results than autogenous preparations.

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