

which it comes in contact. Hence, in essential principle, such a treatment is quite analogous to the Ball and Lynch operations referred to above, in which the cutaneous nerves are destroyed by direct mechanical division, instead of by chemical attack. The alcohol method presents certain definite advantages that will be referred to later. There are certain possible disadvantages also that will be considered at once. Since there is no selective action of alcohol, by which motor nerves are spared, and only sensory ones injured, one might expect a loss of sphincter control if the injections were allowed to come in close relation with the motor branches to the muscles. Also, an injection of a substance causing tissue destruction, if too superficially placed, might be expected to cause a slough and resultant ulceration.

In order to test these possibilities by actual experiment, alcohol injections about the anal regions in dogs were performed, the depth of introduction being varied. Without detailing the protocols of experiments, the following facts were clearly proved: Alcohol injections will produce complete local anesthesia. If introduced deeply enough to come in contact with the motor nerves, sphincteric paralysis and resultant incontinence are produced. If introduced quite superficially—that is, within the skin itself—superficial sloughs are caused. It is quite possible, however, and not very difficult, to produce anesthesia with no sphincter paralysis or skin ulceration; and this by introducing the needle entirely through the skin, but injecting the alcohol immediately under the skin and never deeper than that.

The method has been tried so far in only four clinical cases and for a period so far covering only a few months at most. This, therefore, can only be considered a preliminary report. The facts observed are as follows: Entire and immediate abolition of the itching from the area injected, along with other sensation, leaving an anesthetic zone. No sphincter disturbance. A slight superficial slough in one case where the injection was made into the skin proper instead of under it, due to the patient pulling away just at the moment of injection. The anesthesia may last at least three months; how much longer I am not prepared to say.

As to technique, it is simplicity itself. An ordinary hypodermic needle and syringe, boiled, is filled with 70 per cent alcohol. The skin is prepared as for ordinary hypodermic injection. The needle is introduced well through the skin in the area to be treated, and then made to travel along directly under the skin, depositing the alcohol, until the whole area has been thus infiltrated. The