

poisoning or destruction. Operations are not usually done on the same patient every day, hence nature may be safely permitted to look out for local ill effects, which, to say the least, are never serious. A successful antidote must antagonize the paralyzant effect of cocaine upon the heart, the blood vessels, respiration, etc. It should comprise in its physiological action the merits of digitalis or strophanthus, belladonna, ergot, calabar bean, etc. In its effect upon the circulation and respiration, volasem, which is an extract of violet, resembles the principal action of these drugs. Its effect is manifested so quickly and surely that with it any required strength and amount of cocaine can be safely used. Volasem neutralizes the general toxic effect of cocaine, but does not interfere with its local effect. It stimulates the heart's action and contracts the arterioles. It stimulates respiration and raises the blood pressure. When administered immediately before cocaine is employed, it prevents the usual untoward symptoms by maintaining the respiratory and cardiac functions. I have found that where volasem was administered in five-drop doses every hour, until twelve doses had been taken, no appreciable action was observed; but when fifteen drops were given every half hour for two hours, its action upon the heart and lungs was similar to the primary effect of cocaine, but none of the other cocaine symptoms were observed. I have also noticed with susceptible patients that ten drops would produce similar results within a minute or two. These cases respond quickly to cardiac stimulants, and have none of the usual cocaine after effects. I found, however, that hypodermic injection of cocaine would immediately restore the equilibrium. Thus, I am led to believe that these two drugs antidote each other.

To show the efficacy of volasem I will relate some clinical experiences.

Mrs. A., aged forty, upon whom I had previously operated under cocaine was to be operated upon again, this time for the removal of a tumor. When ready, I discovered I had no volasem, but concluded to proceed under a four per cent. solution of cocaine. I injected four drops and waited for its effect. In about two minutes the patient showed unmistakable toxic symptoms. Aromatic spirits of ammonia was quickly administered, and by the time her clothing was loosened alarming symptoms appeared. The patient being unconscious, hypodermic injections of digitalis, whiskey and strychnine were given. Most of the extreme symptoms were manifested. Respirations had fallen to seven a minute; the radial and temporal pulse ceased, and the heart's action was scarcely perceptible. It required an hour's hard work to restore the patient, and it was several days before she was in a normal condition. Two weeks later I went on with the operation, and first giving five drops of volasem, and a minute later injecting thirty drops of a ten per