

The convulsant action of strychnin and morphin in cardiectomized frogs after destruction of the anterior lymph hearts.

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Meltzer has shown several years ago that in cardiectomized frogs strychnin causes convulsions nearly as well as in normal frogs and morphin causes convulsions even a good deal sooner and with smaller doses. We have shown later that low temperature is an important factor in the success of these experiments. About a year and a half ago, Abel, while admitting the facts, made the statement that the success in these experiments depends upon the activity of the anterior lymph hearts. At the meeting of December, 1912, Meltzer demonstrated cardiectomized frogs with destroyed lymph hearts in strychnin convulsions. The method of complete evisceration employed in these experiments produced, however, such a complete shock that there was a success only in a certain percentage of the experiments. We now employed another method. After destruction of the anterior lymph hearts in normal anesthetized frogs, the animals are permitted to fully recover from the anesthetic and the operation, and the blood heart is removed either a few hours later on the same day or next day. The success is now nearly 100 per cent. The animals have, of course, to be kept at a fairly low temperature. The success is now positive although practically all the injections are made now in the lymph sacs surrounding the thigh and the solution has to travel a longer distance before it reaches the upper end of the cord. You see here frogs in strong tetanus which received strychnin or morphin several hours ago. After evisceration you can see now that the anterior lymph hearts were destroyed. It is evident that the anterior lymph hearts have nothing to do with the convulsive action of strychnin and morphin in cardiectomized frogs.