

in water, were given subcutaneously to a rabbit weighing 1.35 kilograms. This was followed by one gram dose, subcutaneously, at 2, 4, 6 and 21 hours. The rabbit recovered.

This experiment was twice repeated, recovery taking place in each case.

These experiments show that glyocoll given hypodermically is an antidote to poisoning by salicylic acid.

(d) THE MAXIMUM PRODUCTION OF SALICYLURIC ACID
IN MAN.

Parker and Lusk showed that when small doses of benzoic acid were given to a rabbit all the benzoic acid appeared in the urine as hippuric. They also showed that in rabbits there was a limit to the production of hippuric acid. We may ask ourselves the question, do similar conditions exist in man with regard to salicylic and salicyluric acids? In other words when small doses of salicylic acid are administered does all the salicylic acid appear in the urine as salicyluric acid? And is there a limit to the formation of salicyluric acid? In trying to solve this problem we may make use of the results of our analyses of urine of patients taking 60 grains of sodium salicylate a day. In these it was shown that most of the acid appeared in the urine as salicyluric acid. We should, therefore, judge that the maximum production of salicyluric acid would exist with the exhibition of sodium salicylate in doses somewhat less than 60 grains a day. Moreover, with doses above 60 grains of sodium salicylate a day one should expect to find the proportion of free salicylic increase. This was found to be the case in the following experiments:

Experiment 1.—The salicylic acid and salicyluric acid in twenty-four hours' urine of a healthy man taking 120 grains per diem and eating his ordinary diet were determined. The proportion of salicylic to salicyluric acid was 1 to 2.3.

Experiment 2.—The salicylic acid and salicyluric acid in twenty-four hours' urine of a man taking 100 grains a day were determined. The proportion of free to conjugated acid was approximately 1 to 3.5.

These experiments show that the proportion of free salicylic is much greater with 100 and with 120 grains than with 60 grains per diem. This is a very important observation in determining the pharmacological action of salicylic acid, because if salicyluric acid is not wholly formed in the kidney—which is probably not the case—then when the constitutional action of salicylic acid is required, as in the treatment of