

associated with this, is shown by the fact that the dilatation reaches its maximum within 15 minutes, at a time before the temperature has begun to rise. It is of interest to note, however, that the two seemed almost always to parallel one another. The wider the dilatation of the pupil, the higher was the subsequent fever.

45 (1223)

The excretion of Congo red by the stomach.

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The excretion of dyes by the stomach has not as yet been studied in human beings, and even in animals has been investigated only to a very slight extent. Abel found that phthalein dyes were not excreted by the stomach in animals. For several years we have been engaged in the study of the diazo dyes, one of us¹ having paid particular attention to the effects of Congo red when injected intravenously into human beings. The present communication gives a preliminary report on the excretion of Congo red by the human stomach in conditions of health and disease. We have injected up to one gram intravenously into human beings and found that the normal stomach fails to excrete the dye, except in very small amounts, even when these maximal doses are used. As a matter of routine, we have injected 0.3 or 0.4 gm. in normal salt solution.

One of us has shown that anilin dyes, when injected intravenously, may be discovered in the secretions of external ulcers and of ulcerated cancers. With this fact in mind, it seemed advisable to examine cases of gastric ulcer and cancer after intravenous injections of Congo red. We have found in a limited series of such cases, that, as a matter of fact, the dye may generally be demonstrated in relatively considerable quantity in the stomach contents. It is not in solution, but upon filtration is deposited upon the filter paper. Microscopically, granules of the dye can be detected

¹Weil, R., *Jour. of Cancer Research*, 1916, I, 1.

lying free or within phagocyte cells, and it seems probable that it is excreted chiefly, if not entirely, in these cells. Bleeding from the surface of the ulcers is not responsible for the presence of the dye in the stomach contents. The dye is first present in demonstrable amounts from forty-five minutes to one hour after injection, and may be found as long as three hours or more thereafter. The optimum time for withdrawal of the contents is probably about one and one half hours. The diagnostic value of the method in ulcerated conditions of the gastric mucosa is a subject which is being further studied, and which will require a very considerable series of examinations to determine finally. From the limited number of cases yet examined, it is impossible to draw any conclusions further than that in the pathological conditions above mentioned the dye is frequently present in considerable amount in the contents. It is possible that other conditions, such as chronic gastritis or congestion, may permit of the excretion of the dye in a similar manner and in comparable amounts, but we have not as yet found this to be the case. As regards the excretion of the dye in the duodenum, we are not in a position to make any report. The fact that the dye is normally excreted in the bile in solution presents certain difficulties in the study of this problem.

46 (1224)

A comparative test of different antigens and of different temperatures of incubation in the Wassermann test.

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Tests were performed by six different methods upon 500 identical specimens from 457 patients. Three antigens were employed, cholesterinized alcoholic extract of beef heart, simple alcoholic extract of beef heart and the acetone-insoluble lipid fraction of alcoholic extract of beef heart, prepared according to the method of Noguchi. Each of these antigens was used at two different incubation temperatures for fixation of the complement,