

blood, permitting optimal antitoxin response to the toxoid. Three injections are given at monthly intervals—0.5cc., 1cc.—and 1cc.

Since the newborn is infrequently immune to pertussis and tetanus, combined immunization is indicated beginning at two months of age or four months of age, according to the immunological status of the mother. If the mother is Schick-negative, it may be advisable to begin pertussis immunization at

two months of age, and at four months combine further injections with diphtheria and tetanus, if the last is desired. Preparations of combined toxoids and pertussis bacilli vaccine of adequate dosage are now available—so that three injections at monthly intervals in dosage indicated for uncombined diphtheria toxoid will achieve adequate immunity against all these infections.

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*Changes in Lysozyme Formation in the Human Colon in Various Emotional States**

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Lysozyme, a mucolytic enzyme was described by Fleming in 1922. Since then it has been found to occur in nasal mucus, tears, saliva and in gastric, duodenal, ileal and colon secretions. Meyer has demonstrated that the enzyme is present in unusually high concentration in the stools of patients with chronic ulcerative colitis and in relatively low concentration in non-ulcerative chronic diarrheas. Recently Meyer has produced acute ulcerative lesions of the upper gastrointestinal tract by feeding lysozyme to dogs. He postulates that lysozyme destroys the protective mucous coating of the intestine and exposes the unprotected

mucosa to the action of noxious agents or indigenous bacterial flora.

This study, designed to explore the circumstances under which variations in lysozyme concentration occur, includes the measurement of stool lysozyme in random and 24 hour specimens from patients with various types of bowel disorders as well as healthy persons and subjects with diseases other than those involving the colon primarily. All determinations were done by the viscosimetric method of Meyer.

Day-to-day determinations of stool lysozyme were done on the following subjects.

(I) A 26 year old male with ulcerative

Our findings are as follows:

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| Normal subjects | 0.3—1.7 | units per gram wet |
| Acute congestive heart failure | 1.2 | " |
| Cancer of the large intestine..... | 3.2 | " |
| Mucous colitis (mild cases) | | |
| (a) Constipation | 0.6—1.0 | " |
| (b) Diarrhea | 0.4—1.5 | " |
| Chronic ulcerative colitis | | |
| (a) In remission | 0.7—1.6 | " |
| (b) Mild symptoms | 13—15 | " |
| (c) Moderately severe | 40—100 | " |
| Regional enteritis (in remission)..... | 0.4—0.8 | " |
| Acute (24 hour) gastroenteritis..... | 0.7 | " |

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colitis of 6 years' duration. The patient has a loop of ascending colon on the surface of the abdominal wall. This segment of bowel had prolapsed through a cecostomy wound. When the patient was calm, secure and relaxed the lysozyme concentration of the secretions of this loop was low (14-36 units per gram). When the patient was tense, irritated resentful and hostile the lysozyme values were much higher (57, 80, 100 units per gram).

(II) A 36 year old nurse with ulcerative colitis, control specimens on days of mental calm, security and relaxation revealed low values (0.4-2.5 units per gram). On a day following a distressing visit with her mother-in-law, and following a day of argumentation with her husband, both events being associated with considerable guilt, hostility and resentment, lysozyme concentration rose to 14 and 25 units per gram. During this time there were no changes in symptoms.

(III) A 32 year old physician, during times of relative security and relaxation showed lysozyme stool concentrations of low unitage (0.4-0.6). Following the delivery of

a lecture, and following a migraine headache lysozyme concentration in the stool increased to 1.2 and 2.5 units per gram.

(IV) A 36 year old negro chorus girl in a situation which threatened to end her career developed mucous colitis. Lysozyme at this time was relatively high (27 units per gram). Following reassurance and moral support this finding decreased to 14 units. A subsequent episode associated with resentment and hostility brought a return of symptoms and a rise of lysozyme to 25. Later in a calm period lysozyme fell to 8 units.

(V) During the course of ulcerative colitis in a 32 year old female treated in the usual way without psychotherapy, lysozyme values remained essentially unchanged.

(VI) Pre- and post-operative vagotomy stool specimens were done on a 44 year old male with ulcerative colitis. For three days following the procedure lysozyme values rose to 44, from a preoperative level of 15. By the 5th postoperative day the values had returned to their former levels and have remained there.

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*The Use of Para-Aminobenzoic Acid in Amebiasis: Preliminary Report**

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A group of 12 patients with amebiasis was treated with the sodium salt of para-aminobenzoic acid (sodium paba). This study was undertaken purely on an empirical basis, but it was subsequently learned that Brackett and Bliznick¹ demonstrated marked amebicidal activity of paba in vitro.

The patients were chosen at random from those not previously under the care of a physician. All but one of them recently emigrated from Porto Rico and are living on a relatively low socio-economic plane.

Diagnosis was based on the finding of *Endamoeba histolytica* in the stool. None

of the patients had evidence of involvement of the liver.

Treatment was conducted on an outpatient basis and the patients took the drug themselves during the day only. No paba blood levels were done.

The absorption and excretion of sodium paba is quite rapid, and it has been found necessary by a number of investigators to administer doses at two- and three-hour intervals to maintain a level in the therapeutic range of 30 to 60 milligrams per hundred cubic centimeters of blood. Therefore, any dosage schedule in which the drug is not

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