of the Boston Blood Grouping Laboratory, we were supplied with anti-Rh_0' serum. This is a potent human antiserum with an agglutinin titer of well over 1 to 1,000 and with a high avidity index. All positive cells show agglutination in two minutes at the maximum.

TECHNIC

Each bottle of blood is brought to the laboratory with a sample of undiluted blood accompanying it. The undiluted cell suspension, remaining after the serum in the sample tube has been aspirated, is used for the test. The actual testing is done on a plate glass slide 8 by 7 inches ruled off into 1 inch squares. This permits fifty tests to be run simultaneously, together with necessary controls. One drop of anti-Rh_0' serum is placed on each square, using the dropper supplied with the bottle. One drop of the undiluted cell suspension is added with a separate medicine dropper for each test. The resulting suspension is then thoroughly mixed by using the bottom of a Kahn tube, which is wiped dry after each use. Controls with known negative and positive cells are set up. The cell mixtures are allowed to remain on the flat surface for one minute, and then the slide is rotated gently from side to side to loosen any cells adherent to the plate glass. When the positive control shows complete agglutination—usually within a minute—the tests are immediately read macroscopically. Cells over 24 hours old should not be used. The antiserum, which is kept in a refrigerator, should be at room temperature when used for testing. The actual setting up and reading of fifty such tests takes about fifteen minutes.

In order to check the accuracy of this technic a parallel test was run with the test tube method. A human anti-Rh_0 serum prepared by Capt. John Elliot, Sn. C., of the Department of Surgical Physiology, Army Medical School, Washington, D. C. was used with the following technic:

Three cc. of isotonic solution of sodium chloride is added to the blood clot remaining in the original pilot tube. The added saline solution is drawn up and expelled a few times by a medicine dropper. A separate medicine dropper is used for each tube. This results in an approximately 2 per cent cell suspension. One drop of the 2 per cent cell suspension and one drop of the anti-Rh_0 serum is placed in a Kahn tube. The tube is well shaken and placed in a water bath at 37 C. for one hour. The tubes are then centrifuged at 1,000 revolutions per minute for one and one-half minutes and immediately read for macroscopic agglutination. If none is visible, a drop is examined on a slide, microscopically. The presence of agglutination designates the blood as Rh positive; its absence denotes an Rh negative blood. Known positive and known negative controls are also run with this technic.

There was 98 per cent agreement of the results by the test tube and the slide method. The difference is explained by the fact that one serum is of the 85 per cent type while the other is of the 87 per cent. For complete accuracy, only those bloods were recorded as Rh negative which were negative to both tests. This means, in effect, that the recorded negative bloods were the results of testing with Rh_0 antiserum. The finding of 14.2 per cent Rh negative blood in 22,133 tests is in accordance with previously recorded figures.[3] It was interesting to note the almost perfect agreement of the percentage of Rh negative males and females.

In compiling these figures there were noted 283 Negro bloods, which were separately recorded. The percentage of Rh negative bloods was consistent with the results of other investigators.[4]

In the course of these investigations several anti-Rh serums of the animal type were used. In our hands these serums were not sufficiently accurate for routine use either by the slide or by the test tube technic. Several human anti-Rh serums were also tested and it was found that only those of a high agglutinin titer, at least 1:1,000, and a high avidity index were acceptable for the slide test. Weaker human anti-Rh serums are satisfactory for the tube technic. Dried human anti-Rh serums also have been found to be quite accurate.

COMMENT

The present day knowledge of the importance of the Rh factor to the clinician, particularly the obstetrician, the pediatrician and the transfusionist, makes imperative the determination of its presence or absence in a large number of persons. Certainly no premarital, antepartum or pretransfusion examination is complete without an Rh testing. Using a high titered human antiserum with a high avidity index, the slide technic has been most satisfactory for large scale Rh testing. The ease with which Rh testing can be performed on a large scale should place it in the category of a routine test.

3. Levine, Philip: Tables of Tests Made with Human Anti-Rh Sera, in Karsner, H. T., and Hooker, S. B.: The 1941 Year Book of Pathology and Immunology Chicago, Year Book Publishers, Inc., 1941, p. 508.

4. Wiener, A. S.; Belkin, R. B., and Sonn, E. B.: Distribution of A_1-A_2-B-O, M-N and Rh Blood Factors Among Negroes in New York City, Am. J. Phys. Anthropol. **2**: 187 (June) 1944.

PHTHALYLSULFATHIAZOLE

("SULFATHALIDINE")

CLINICAL, CHEMICAL AND BACTERIOLOGIC EVALUATIONS IN INFECTIOUS DISEASES OF THE COLON

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While good results have been obtained with sulfonamides previously utilized in the intestinal canal, one is constantly on the alert for an agent that may approximate perfection. In recent years sulfaguanidine and succinylsulfathiazole (sulfasuxidine) [1] have been the two agents most widely used in the management of infectious diseases of the colon. Favorable results were obtained in a large percentage of patients treated with the two sulfonamides just mentioned.

In the evaluation of sulfaguanidine it is my experience that this agent is more toxic than succinylsulfathiazole, that larger dosages are required for optimum results and that the blood concentration determinations reach a higher level. Succinylsulfathiazole, on the other hand, is apparently less toxic and, while large doses have been prescribed orally, the blood levels range between 1 and 1.5 mg. per hundred cubic centimeters of blood irrespective of the duration of administration of the drug, thus indicating that the absorption of the drug from the gastrointestinal tract is negligible.

Recently a new sulfonamide has been developed named phthalylsulfathiazole, or sulfathalidine. This compound is similar to succinylsulfathiazole chemically

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Miss Catherine Grenci, research assistant, Dr. Robert W. Keeton, head of the Department of Medicine, and Dr. Milan Novak, head of the Department of Bacteriology, made helpful suggestions in this study.

1. Streicher, M. H.: M. Clin. North America **27**: 189, 1943.

and therapeutically but is more effective. Ross and Poth[2] have reported that phthalylsulfathiazole is absorbed sparingly from the gastrointestinal tract, that it maintains low concentrations in the blood (0.1 mg. to 1.5 mg.) and that it is rapidly excreted in the urine; they claim that the new drug has two to four times

TABLE 1.—*Efficacy of Phthalylsulfathiazole in Infectious Diseases of the Colon*

	Stage of Disease		Results		
Name of Disease	Acute	Chronic	Good	Fair	Poor
Chronic ulcerative colitis...	22	58	20 acute 54 chronic	1 acute 1 chronic	1 acute 3 chronic
Amebic colitis.....	4	2	.. ..	.....	4 acute 2 chronic
Bacillary dysentery.....	..	2	.....	2 chronic	
Giardia lamblia.....	2	6	2 acute 6 chronic		
Paratyphoid.....	..	2	.....	2 chronic	
Dientameba fragilis.....	2	..	2 acute		
Total number of patients..	30	70	24 acute 69 chronic	1 acute 5 chronic	5 acute 5 chronic

the bacteriostatic activity of succinylsulfathiazole and that it causes no toxic symptoms in man. Because phthalylsulfathiazole exerted a more bacteriostatic effect on the intestinal flora and because smaller doses were required to produce this effect, the new sulfonamide was placed on clinical trial.

This presentation is intended to give the general practitioner an analysis of the new sulfonamide in its application to infectious diseases of the colon. The study entails a careful evaluation of phthalylsulfathiazole in the treatment of 100 patients with infectious and ulcerative lesions of the colon. Chemical concentrations of the drug were determined in the stool and correlated with blood levels and bacteriologic studies.

RESULTS

Clinical Studies.—Of the 100 patients treated, 72 were female and 28 were male; of these 80 had chronic ulcerative colitis, 6 had amebic dysentery, 2 with bacillary dysentery, 8 with Giardia lamblia, 2 with paratyphoid and 2 with Dientameba fragilis. In table 1, the efficacy of phthalylsulfathiazole is shown. It is important to note that in chronic ulcerative colitis the patients in the acute stage of the disease show improvement comparable to the ones in the chronic group. In amebic colitis our results demonstrate again that sulfonamides have not been efficacious.

The results demonstrated in Giardia lamblia and in Dientameba fragilis, while favorable, are new in our experience and should be rechecked on a larger group of patients.

Clinically definite improvement is noted in the overall picture in infectious disease of the colon under phthalylsulfathiazole therapy. Of the 100 patients under study, 84 demonstrated good results, 6 show fair results and 10 patients show poor reaction to treatment. In chronic ulcerative colitis cramping in the abdomen subsides within seventy-two hours, the evacuations are reduced in number, the stools show a tendency to become formed and odorless, and the blood in the stool disappears in a few days after intake of the new drug. The patient feels better, eats better and gains weight. The acute fulminating types respond well in that the temperature is reduced considerably in seventy-two hours, the evacuations become less frequent and the tenesmus subsides. Phthalylsulfathiazole has been administered to many of our patients over two, four, six and eight week periods intermittently without demonstrating any toxic manifestations. Some patients were permitted to remain on a specific dosage for six to nine months without interruption to prove lack of toxicity. The matter of dosage will be discussed subsequently. In general, the patients on this therapy do very well and are in condition to do their work. In addition to the administration of phthalylsulfathiazole the patients under our care receive supportive measures and a controlled diet, so that the standards for study are parallel.

Therapeutic Dosage.—The dosage of phthalylsulfathiazole originally advised was 0.125 Gm. per kilogram of body weight daily (approximately one half that of succinylsulfathiazole. Thus, a patient weighing 150 pounds (68 Kg.) would receive 8.5 Gm. (seventeen tablets) of phthalylsulfathiazole daily. This dosage, in our experience, proved to be detrimental, unnecessary and wasteful, and after chemical studies were made on the blood and stools a dosage of 3 Gm. daily was decided on. On 12 Gm. daily intake the majority of our patients experienced severe cramping, more looseness in the stools and an increase in the number of evacuations.

CHEMICAL STUDIES

Blood Concentration Level.—The blood level studies show that the concentration of the drug in the blood stream ranges from 0.5 to 1.5 mg. per hundred cubic centimeters of blood irrespective of the dose intake. On a small dose it necessarily takes a few days longer before the upper blood levels are approached.

Stool Concentration Level.—Stool concentration tests were made in order to account for the recovery of the drug taken orally. Determinations were made of the amount of the total phthalylsulfathiazole in the entire stool for each day. Results show that about 55 to 65 per cent of the amount of the drug taken orally is recovered in the stool on a dosage of 3 Gm. (table 2).

Urine Concentration Level.—The amount of phthalylsulfathiazole excreted in the urine is equal approximately to 5 per cent of the amount of oral intake. The estimate of drug recovery on the daily oral intake of

TABLE 2.—*Recovery of Phthalylsulfathiazole in Milligrams for Seven Day Period, Patient 1*

	1	2	3	4	5	6	7	Per Cent of Recovery
Daily Intake 3 Gm.								
Urine.....	150	150	150	150	150	150	150	
Stool.....	138	298	2,515	2,021	3,391	1,853	3,312	64.9
Blood.....	57	57	81	45	45	45	45	
Total....	345	505	2,746	2,252	3,586	2,048	3,507	
Daily Intake 12 Gm.								
Urine.....	600	600	600	600	600	600	600	
Stool.....	1,717	1,012	4,840	5,964	5,898	8,216	7,540	41.9
Blood	57	81	45	57	45	45	81	
Total....	2,374	1,693	5,485	6,621	6,543	8,861	8,221	

3 Gm. would be 150 mg. and on 12 Gm. intake 600 mg. In tables 2 and 3 is shown an example of a recovery experiment demonstrating the amount of total phthalylsulfathiazole recovered in the urine, stool and the blood stream of 2 patients receiving 3 Gm. and 12 Gm. daily for seven days.

It is interesting to point out that the amount of total drug recovered seldom approaches the amount of oral intake, indicating that a substantial percentage of the drug intake is not recoverable; this may be due to lack of more accurate methods of estimating the

2. Poth, E. J., and Ross, C. A.: Federation Proc. **2**: 89, 1943.

drug in the excreta or perhaps due to the presence of naturally diazotizable substances in the normal excreta, such as compounds produced by Escherichia coli or amino acid groups.

In table 2, patient 1, on a daily oral intake of 3 Gm. of phthalylsulfathiazole, the percentage of drug recovery

TABLE 3.—*Recovery of Phthalylsulfathiazole in Milligrams for Seven Day Period, Patient 2*

								Per Cent of Recovery
				Daily Intake 3 Gm.				
	1	2	3	4	5	6	7	
Urine	150	150	150	150	150	150	150	
Stool	1,111	1,166	1,381	1,638	3,275	1,664	1,506	56.6
Blood	58	63	45	57	81	58	63	
Total	1,319	1,379	1,576	1,845	3,506	1,872	1,719	
				Daily Intake 12 Gm.				
Urine	600	600	600	600	600	600	600	
Stool	7,979	3,652	7,128	2,436	8,384	5,460	7,350	54.5
Blood	89	63	81	63	58	81	89	
Total	8,668	4,315	7,809	3,099	9,042	6,141	8,039	

in the stool was 64.9, while in the recovery on the 12 Gm. daily intake the percentage was 41.9.

In table 3, patient 2, the percentage of drug recovery in the stool was 56.6 and 54.5 respectively.

Both tables demonstrate the general tendency of phthalylsulfathiazole to concentrate the drug in the stool to a greater degree on a smaller amount of oral intake. This general trend has been demonstrated many times in our studies.

BACTERIOLOGIC STUDIES

Detailed bacteriologic studies were made on 50 patients having infectious processes in the colon. The studies were directed primarily toward identification, bacterial counts, staining peculiarities and reaction to sugars of the coliform group, the streptococci, the staphylococci and total bacteria.

TABLE 4.—*Bacterial Count of Stools Before and After 3 Gm. of Phthalylsulfathiazole, Patient 1*

Name of Organisms and Counts in Millions (per Gram of Stool)								
Esch. Coli		Streptococci		Staphylococci		Total Bacteria		
Before	Days on Treatment After	Before	Days on Treatment After	Before	Days on Treatment After	Before	Days on Treatment After	
190.0		2.0		3.0		193.0		
	1 56.0		1 1.6		1 1.0		1 73.0	
	2 36.0		2 1.0		2 ...		2 40.0	
	3 5.2		3 1.0		3 0.6		3 5.0	
	4 0.2		4 1.7		4 1.4		4 3.3	
	5 0.24		5 0.3		5 0.2		5 0.8	
	6 0.01		6 0.2		6 0.3		6 0.6	
	7 0.05		7 0.19		7 0.15		7 0.4	
	8 0.02		8 0.1		8 0.06		8 0.2	
			Before and After 12 Gm. of Sulfathalidine					
16.4		1.2		3.9		20.0		
	1 5.0		1 0.4		1 0.4		1 5.0	
	3 2.6		3 0.2		3 0.4		3 4.0	
	8 0.4		8 0.1		8 0.4		8 0.1	

These estimations were made before and after administration of phthalylsulfathiazole and were calculated on a unit study of 1 Gm. of stool.

In tables 4 and 5 is shown a bacteriologic study of patients 1 and 2 before and after oral intake of 3 Gm. and 12 Gm. of phthalylsulfathiazole respectively. Studies such as demonstrated in table 4 were made on all patients. (A detailed presentation of all bacteriologic studies is not intended in this publication.) These figures are representative of all studies made. It is evident that the counts are definitely diminished in Escherichia coli, streptococci, staphylococci and total bacteria on 3 Gm. of phthalylsulfathiazole daily, and that, while on 12 Gm. doses daily the bacterial count is diminished more rapidly, it approximates the same level on the seventh or eighth day. Similar findings are demonstrated in table 5.

COMMENT

It is my impression that phthalylsulfathiazole is less toxic and more bacteriostatic than any intestinal agent used previously and that, because it has these properties, smaller doses of this drug may be used to advantage. In our analysis, determinations have been made to show that a daily dose of 3 Gm. taken orally will bring about the desired therapeutic effect in infectious diseases of the colon and that doses of 12 Gm. or more are not essential. Large amounts of phthalylsulfathiazole not only are wasteful but are detrimental.

Patients receiving 12 Gm. of the drug complain of considerable cramping in the abdomen, exaggeration of the liquid consistency of the stool and an increase in

TABLE 5.—*Bacterial Counts of Stools Before and After 3 Gm. of Phthalylsulfathiazole, Patient 2*

Name of Organisms and Counts in Millions (per Gram of Stool)								
Esch. Coli		Streptococci		Staphylococci		Total Bacteria		
Before	Days on Treatment After	Before	Days on Treatment After	Before	Days on Treatment After	Before	Days on Treatment After	
85		3.0		4.0		90		
	2 4.8		2 1.0		2 1.0		2 10.0	
	4 0.4		4 0.5		4 0.8		4 5.0	
	6 0.1		6 0.4		6 0.4		6 4.0	
	11 0.1		11 0.6		11 0.6		11 2.0	
			Before and After 12 Gm. of Sulfathalidine					
60		1.0		4.0		71.0		
	1 8.8		1 0.01		1 1.2		1 9.7	
	3 0.5		3 0.07		3 0.2		3 3.4	
	8 0.01		8 0.02		8 0.06		8 0.5	

the number of evacuations. In a comparative study made of phthalylsulfathiazole and succinylsulfathiazole one comes to the conclusion that the new sulfonamide is a superior therapeutic agent in colon infections.

CONCLUSIONS

1. Phthalylsulfathiazole is efficacious in colon infections.
2. The new sulfonamide produced no toxic symptoms in 100 patients.
3. A dosage of 3 Gm. daily is preferable to larger amounts.

ABSTRACT OF DISCUSSION

DR. HENRY W. CAVE, New York: My experience with phthalylsulfathiazole, or sulfathalidine, has been in the preoperative preparation of 120 patients for procedures carried out on the colon and of 10 persons with mild forms of ulcerative colitis, in which haustral markings were still obtained, without pseudopolypoid degeneration or stiffening of the colonic wall. I agree with Dr. Streicher that it is not necessary to give doses of 12 Gm. daily. In these cases I have given 6 Gm. as a rule and have found it sufficient to stop bleeding, diminish cramping and show a decided improvement in the appearance of the mucous membrane of the rectal pouch and the lower sigmoid. I have had no toxic effects from the use of the drug preoperatively except in 2 instances. Three of the 10 patients to whom I have given this newer drug sulfathalidine have had it over a period of one year. They have shown good improvement,

gain in weight, diminution in the amount of diarrhea to one or two bowel movements a day, and are apparently well. The mucous membrane is clear There have been 4 who have been on the drug for a little more than six months and have shown improvement. Three have been on the drug for four months and have shown improvement; 1 in this last group did have three recurrences but has now straightened away satisfactorily. The group of 10 patients is too small from which to draw any conclusions. But certainly the group of 80 reported by Dr. Streicher have shown improvements which must be taken notice of. This new drug, which is relatively nontoxic, seems to have beneficial effects on infections of the colon. I do not believe the drug is as satisfactory as succinylsulfathiazole in the preoperative preparation of patients, for the movements are not quite as soft and they did not tend to form scybalous masses as with sulfathalidine in the large intestine, which is a hindrance at times in doing a partial resection of the colon.

DR. J. ARNOLD BARGEN, Rochester, Minn: Drugs of the sulfonamide series have been very helpful in the treatment of various inflammatory and infectious intestinal disorders. Such drugs have been administered orally, as retention enemas and by subcutaneous and intravenous routes. The very nature of the intestinal tract made it apparent rather early in our study of these drugs that in order to obtain desired results they would have to be given in large amounts. In the treatment of intestinal diseases the drug should be in actual contact with the intestinal wall continuously, and there should be a minimum of systemic absorption and in turn a minimum of systemic intoxication. The drugs which have answered these requirements best and have done most in the treatment of ulcerative colitis and other infectious intestinal diseases are azosulfamide (neoprontosil), sulfaguanidine, succinylsulfathiazole and sulfathalidine. Most of the other sulfonamide compounds, too numerous to mention, were found to be absorbed in too large amounts, when given in effective doses causing in turn too great toxic symptoms, to be adaptable to the treatment of intestinal diseases. Last March I published the results of treatment with sulfathalidine of 37 patients with ulcerative colitis of the streptococcic variety. Our experiences with that group of patients were very similar to those which Dr. Streicher has reported. Since then we have treated at least another 50 patients with this type of colitis, with similar results. The response of at least 70 per cent of these patients to the program of therapy in which sulfathalidine played a prominent role was very good. In the past my colleagues and I have felt that azosulfamide was the drug of choice for the treatment of the streptococcic type of ulcerative colitis. However, a number of patients have had toxic reactions to azosulfamide in the form of erythematous rash, sore throat, chills, fever and the like. It is of interest to note that some of the 37 patients had such reactions and most of them had no similar reactions to sulfathalidine. However, even though toxic reactions to this drug have been minimal in general, and the least common of any of the drugs so far employed, reactions do occur. One of the series, a woman aged 47, had similar reactions to sulfathiazole, succinylsulfathiazole, azosulfamide and sulfathalidine. Another woman, aged 55, had a severe reaction with fever and generalized erythematous rash to succinylsulfathiazole, and a similar reaction to sulfathalidine. By and large, however, when reaction to one of the other drugs occurred, no reaction occurred with the use of sulfathalidine. Furthermore, a good many patients have shown an initial satisfactory response to one of the other three drugs mentioned but the response was not sustained. Such a sustained response promptly occurred by the use of sulfathalidine. We have also used sulfathalidine in the treatment of some cases of recurrent regional ileitis and segmental colitis, with good response in a few. For some years now we have given rather large amounts of succinylsulfathiazole preoperatively for several days to patients on whom intestinal resection has been planned. Occasionally these patients have exhibited rather severe toxic symptoms to the drug. In these cases sulfathalidine has been given without such toxic symptoms or with minimal symptoms. It is important to know that when patients are sensitive to one drug of the sulfonamide series there is another drug available for a similar purpose with less toxicity and yet good effects in selected cases. It seems from the observations so far available that sulfathalidine is such a drug for use in intestinal disorders. Its toxicity is less, it will frequently be associated with satisfactory results when satisfactory improvement does not follow the use of other drugs or when toxic effects follow their use and finally, as Dr. Streicher has pointed out, smaller amounts of the drug are usually more effective than of any of the other drugs in common use for intestinal conditions.

DR. BURRILL B. CROHN, New York: The experiences of Dr. Streicher with the use of phthalylsulfathiazole in infectious diseases of the colon, particularly with ulcerative colitis, are exceedingly promising. The percentage of reported "good" results, the lack of mortality and the absence of toxicity of the drug exceed the best results published to date. For two years I have used the drug in cases of ulcerative colitis and ileitis. My comments are based on purely clinical conclusions as observed at the bedside, as war conditions have made it difficult to carry out extensive bacteriologic studies. The dosage of phthalylsulfathiazole that I have employed is the same used by the author, namely, 3 to 4 Gm. daily by mouth. The drug was prescribed over long periods without deleterious consequences. It is almost entirely nontoxic, hemolytic anemia has not been observed (in contrast with sulfathiazole), toxic rashes are nonexistent, and no adverse effect is noted on the temperature or the appetite. One case only of mild and transient hepatitis with jaundice was observed, symptoms disappearing within a few days of the discontinuance of the specific therapy. In its clinical efficacy, phthalylsulfathiazole has few advantages over succinylsulfathiazole except a lesser toxicity, but it does not offer any greater, if as great, therapeutic result. Succinylsulfathiazole gives better clinical results, particularly in the more severe and more acute types of cases. The diminution in the fever and in the number of stools may be more gradual but occurs in a larger percentage of cases. Nowhere in my experience with either the phthalyl or the succinyl compound of sulfathiazole have I ever approached such an optimistic picture as reported by the author as 84 per cent of good, 6 per cent of fair and only 10 per cent of poor reactions to treatment in inflammatory conditions of the colon, most of which cases (80 per cent) comprised acute and chronic ulcerative colitis. This last year particularly has been marked by the extreme severity of some of the acute cases, in 2 of which, fulminating in character, death occurred in spite of the use of large doses of both varieties of the drug. The chronic ulcerative colitis cases also have been very resistant to forms of therapy. My former, somewhat guarded enthusiasm and advocacy of succinylsulfathiazole in the treatment of colitis continues, but these moderate results are not equaled and surely not surpassed by the newer, more concentrated bacteriostatic effects of sulfathalidine. The best clinical results that I have seen have been in the combined use of the intestinal sulfonamide drugs by mouth, coincident with the employment of acriflavine base 1:4,000 as daily retention enemas. In the combined forms of colitis and ileitis and in the cases of ileitis and ileojejunitis sulfathalidine seems far superior to succinylsulfathiazole, it controls fever, diarrhea and abdominal cramps, and it has a striking effect in bringing about the spontaneous closure of persistent abdominal small fistulas and perirectal abscesses and fistulous tracts.

DR. MICHAEL H. STREICHER, Chicago: The discussions presented by Drs. Cave, Bargen and Crohn are conclusive and add much to this exposition. I concur in the opinion of Dr. Cave that succinylsulfathiazole is more satisfactory than phthalylsulfathiazole in preoperative preparation of patients. It is of interest to know that Dr. Bargen has had favorable experiences with the use of smaller doses of sulfathalidine in ulcerative colitis. The results referred to by Dr. Crohn in alleviating the symptom complex in cases of ileitis, ileojejunitis and ulcerative colitis with sulfathalidine are promising. Discussions such as these are of practical importance and will encourage a more extensive evaluation of the new sulfonamide.