

- Palmerio C, Fine J: Nature of resistance to shock. Arch Surg (Chicago) 98:679, 1969
- Fine J, Palmerio C, Rutenberg S: New developments in therapy of refractory shock. Arch Surg (Chicago) 96:163, 1968

### EPIDEMIC GIARDIASIS

*To the Editor:* In a recent article on epidemic giardiasis in the *Journal*<sup>1</sup> reference was made to a possible outbreak of giardiasis in Oregon, of which no detailed report was available. A report of this outbreak was rejected by a journal on the basis of insufficient proof, and no further attempt was made to publish the findings. Because of the many similarities between the two outbreaks, and the scarcity of published accounts of such episodes, I am submitting a brief summary of the Oregon epidemic.

From October, 1954, to March, 1955, an estimated 50,000 cases of gastroenteritis occurred in Portland, Oregon. The source, mode of spread and etiology were never satisfactorily determined. No enteric pathogens or viruses were isolated, nor were any protozoa found in unusual numbers except giardia.<sup>2</sup> The outbreak was unique for the city, both in the number of cases, which were chiefly in adults, and in the nature and duration of symptoms of many of them. Though many of the 500 cases epidemiologically analyzed were acute, brief and self-limited, a third of them were protracted and intermittent, with symptoms lasting for as long as 120 days. From histories obtained during our own study, a typical case of the protracted type had a gradual onset and a series of episodes of diarrhea, occurring over a period of weeks, the diarrhetic stools often being watery, pale and fatty. Though the diarrhetic attacks usually lasted only a few days at a time, the discomfort, especially in the upper abdomen, the nausea and the lack of appetite usually persisted between attacks.

Our study, begun after the peak of the outbreak, included 110 people, almost all of them employees or students at the Medical School. Twenty-nine of them were studied specifically because of diarrhea, or as contacts of giardia-positive persons. The remaining 81 were members of one student class and employees randomly selected and comparable to similar groups studied in earlier or later years. The average frequency of giardia in such groups in other years was 7 per cent; for the epidemic year it was 37 per cent. Rates of all other protozoa were unchanged. Twenty-one per cent of the 81 were having symptoms of diarrhea, flatulence or abdominal pain or discomfort at the time of examination.

No correlation between brief, acute attacks or previous diarrhea and the presence of giardia could be found, and half those excreting giardia were asymptomatic. Of the 31 who had diarrhea at the time of examination, and with symptoms lasting for more than one week, 90 per cent were excreting giardia, usually in enormous numbers. The diarrhea of two of the three others was probably antibiotic induced. Twelve of the symptomatic excreters were given quinacrine, with prompt and complete relief of all symptoms. Seven of the 12 later relapsed, or were reinfected, but the relapses responded to quinacrine. Two had had previous stool examinations negative for giardia, with the parasite present in enormous numbers during the attack, and in two, who had no detectable giardia after quinacrine treatment, the organisms reappeared at the time of relapse.

In both Aspen and Portland, the epidemic probably was of mixed etiology with giardia considered implicated only in the cases with a long course and fairly distinctive symptoms. In neither episode was giardia proved to be the cause of disease, but in both the evidence was highly suggestive of such a relation. A more widespread recognition of the possibility of such occurrences seems highly desirable.

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- Moore GT, Cross WM, McGuire D, et al: Epidemic giardiasis at a ski resort. New Eng J Med 281:402-407, 1969
- Morbidity and Mortality Weekly Report 4 (5):8 and 4 (7):1-2, 1955

*To the Editor:* For the peace of mind of the many skiers for whom Aspen is the ultimate goal, for the guidance of physicians who are called upon to treat diarrhetic disease and for the economic welfare of the tourism industry of Colorado, there should be a follow-up report on the sewerage and water supply of Aspen. I assume that conditions pertaining at the time of the epidemic of giardiasis reported by Moore et al. in the August 21 issue of the New England Journal of Medicine have been corrected. But I should like to be reassured of this

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The above letters were referred to the authors of the article in question, who offer the following reply:

*To the Editor:* The replacement of the ailing sewer lines had already been planned by the City of Aspen at the time the work-up of the outbreak started. Also, since that time a new water-treatment plant has been completed, and the sewage plant remodeled.

Dr. Veazie's interesting report from Oregon is further evidence that giardiasis may occur in epidemic form.

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### CLEAN INSIDE AND OUT

*To the Editor:* The following is a true incident-accident report filed in an unidentified hospital. The time and patient's name are fictitious. (This did not occur at the University of Washington or in Seattle.)

"To: Chief, Nursing Service

"Name of Individual Involved: Smith, John

"Mr. Smith on 14 April 66 was given some liq pHisoHex soap so he could take a shower before going (sic) to surgery instead of taking a shower c̄ pHisoHex he drank it. Because he didn't go to surgery on 14 April Mr Smith was given some more liq pHisoHex so he could take a shower before going to surgery, but instead he drank it again. There was another person with Mr Smith this AM when the aide gave him the pHisoHex and heard me tell him to take a shower c̄ the pHisoHex soap. This AM the patient complained that the medicine made him vomit to the doctor."

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### GASTRIC ACIDITY AND PROTEIN INTOLERANCE

*To the Editor:* The article by Elkington, Floch and Conn entitled "Lactulose in the Treatment of Chronic Portal-