

# Peptic Ulcer in Long-Term Institutionalized Schizophrenic Patients

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Because of the controversial opinions concerning the incidence of peptic ulcer in schizophrenic patients, a survey of 1275 autopsy protocols of a selected group of schizophrenics (white males, hospitalized for an average of 24 years, who died at the age of 40 or over in 1 of 29 Veterans Administration psychiatric hospitals) was carried out. The incidence of healed and active ulcers detected was 6%. This figure was within the range of those reported on large unselected general populations similarly surveyed.

**T**HE INCIDENCE of peptic ulcer in mental patients has been reported with controversial results. From surveys of clinical records, several authors concluded that ulcer disease is rare in psychotic patients,<sup>1-7</sup> while others found an equal<sup>8-12</sup> or higher incidence of ulcer in these individuals.<sup>13, 14</sup> Surveys of autopsy records of mental hospitals reported a low incidence of ulcer among mental patients.<sup>15, 16</sup>

The few studies confined to schizophrenic patients gave similarly controversial results. In the clinical records of 399 schizophrenic men, Gosling<sup>17</sup> found only 4 with the diagnosis of ulcer instead of the expected 12-16 found among healthy men of the same age and in the same community. Pollak and Kreplick<sup>18</sup> reported 5 peptic ulcers found in 273

autopsies of schizophrenic patients. Samet *et al.*<sup>18</sup> reported, as a medical curiosity, a case of duodenal ulcer in a patient with schizophrenia. Ross *et al.*<sup>10</sup> expressed the opinion that peptic ulcer is not associated with schizophrenia, but with manic-depressive psychosis. Honig<sup>11</sup> also found a low incidence of clinical diagnosis of peptic ulcer in schizophrenic patients, but he ascribed this to the difficulty in diagnosing ulcer under these conditions. In Ehrentheil's clinical study,<sup>12</sup> the frequency of ulcer in schizophrenic and nonpsychotic groups was identical.

Because of the rarity of complaints of ulcer symptoms by schizophrenic patients, the disorder thus frequently escaping detection, autopsy material probably furnishes the most reliable survey of the incidence of peptic ulcer in a population with long-standing schizophrenic illness.

## Material and Method

The autopsy protocols of 1275 white male patients who had spent an average of 24

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years in Veterans Administration psychiatric hospitals with the diagnosis of schizophrenia and who died at the age of 40 or over during 1954-1959, were examined. They were surveyed for findings of healed or active peptic ulcer of the stomach or duodenum, as well as for reports of gastric resection, gastroenterostomy, or perforation repair in those patients who carried the clinical diagnosis of ulcer but showed no healed or active ulcer at necropsy. The protocols were collected from 29 hospitals located in various parts of the United States. The autopsy rates in these hospitals were over 60%, and the autopsies were requested and performed in a routine manner. The diagnosis of gastric or duodenal ulcer, active or healed (scar), were part of the description of the gross anatomic changes found at autopsy.

The mean age at death of the 1275 schizophrenic patients was 62.8 years.

**Results**

Of the 1275 autopsied schizophrenic patients, 76 (6%) had had healed or active peptic ulcer (Table 1). The relative incidence of duodenal to gastric ulcers was 3:1, a ratio usually found in mentally "healthy" populations. The relative frequency of healed and active ulcers was 1:4, similar to that found in 2 series of nonpsychotic patients.<sup>20, 21</sup> Mean age at death of the duodenal ulcer group was 64.2 years, and of the gastric ulcer group, 61.9 years. Arrangement of distribution of ulcer patients by age groups showed erratic peaks of incidence; distribution by the major types of schizophrenic illness (hebephrenic, catatonic, paranoid) revealed no sta-

tistically significant differences among the subgroups.

There was a group of 32 patients who at necropsy showed no evidence of healed or active ulcer, but who had residual evidence of surgical procedures (15 had had gastric resection, 15 gastroenterostomy, and 2 perforation repairs) carried out for the clinical diagnosis of ulcer. The addition of these 32 patients to the 76 already described would raise the incidence of peptic ulcer disease in this group of 1275 schizophrenic patients from 6 to 8.5%.

Necropsy incidence of peptic ulcer in the general population has been reported in several large series. Gordon and Manning<sup>22</sup> reviewed the world's literature of almost a century and added their own retrospective survey of 23,000 autopsies performed at the Philadelphia General Hospital during 1920-1937. The reported incidence ranged from about 1 to 5%, with an average of 3.1%. In a similar survey by Portis and Jaffe<sup>20</sup> of 9171 consecutive autopsies performed at Cook County Hospital during 1929-1936, the relative incidence of peptic ulcer in white males (of all ages) was 2.9% for gastric ulcer and 2.3% for duodenal ulcer. The total incidence for the entire group was about 5%. In Sturtevant and Shapiro's examination of 7700 records of autopsies performed at Bellevue Hospital during 1904-1922, the incidence of peptic ulcer in patients over the age of 40 (both sexes, white and Negro) was 3.3% (0.8% duodenal and 2.5% gastric ulcers).<sup>21</sup>

Of the 1275 schizophrenic patients in

TABLE 1. INCIDENCE OF PEPTIC ULCER IN AUTOPSY PROTOCOLS OF A SELECTED GROUP OF 1275 SCHIZOPHRENIC PATIENTS

Ulcer	Active		Healed		Total No.	% of all autopsies
	No.	%	No.	%		
Duodenal	43	79	12	21	55	4.3
Gastric	18	95	1	5	19	1.5
Duodenal + gastric	—	—	—	—	2*	0.2
TOTAL					76	6.0

\* In one patient the duodenal ulcer was active; in the other patient the gastric ulcer was active.

our study, 31 (2.4%) died of complications of peptic ulcer. The immediate causes of death are shown in Table 2. According to the Vital Statistics of the United States,<sup>23</sup> of the 3,775,921 white males who died at or over the age of 40 during 1954-1959, 41,535 (1.1%) died of peptic ulcer (0.5% of gastric ulcer, 0.6% of duodenal ulcer). While, in general, one should avoid the statistical comparison of autopsy material with the government's vital statistics figures concerning causes of death, in the case of peptic ulcer such comparison was attempted on the basis that the immediate cause of death from ulcer is one of the alarming complications which, in most cases, is correctly diagnosed clinically, on the operating table, or the necropsy room. The difference between 2.4% and 1.1% was found statistically significant ( $p < 0.01$ ).

Time relationship between the onset of schizophrenia and ulcer symptoms could be determined from the available clinical summaries attached to the protocols in only 43 cases. Except for 2 patients, psychiatric symptoms preceded manifestations of ulcer by several years.

#### Comments

The selection of patients in the present survey was made with the intention of examining a schizophrenic population characterized by long duration of illness and prolonged institutional care. The collection of autopsy reports from 29 different Veterans Administration hospitals minimized geographic bias and any eventual individual bias of judgment in

the autopsy diagnosis of peptic ulcer. Unfortunately, no well-matched control groups of nonpsychotic patients were available for precise comparison with our selected group of schizophrenic patients. However, the finding of 6% healed or active ulcers (8.5% if the operated cases are included) in this group of patients vs. the 1-5% found in numerous general population groups autopsied, suggests that the incidence of peptic ulcer was, at least, equally prevalent in our selected group of schizophrenics.

This study is offered to show that whatever the pathophysiologic mechanism of peptic ulcer may be, it is present and may even be exaggerated in long-term institutionalized chronic schizophrenic patients.

#### Summary

A total of 1275 autopsy protocols of white male schizophrenic patients who spent an average of 24 years in mental hospitals and died at the age of 40 or over during 1954-1959 were collected from 29 Veterans Administration psychiatric hospitals. They were surveyed for autopsy findings of healed or active peptic ulcer of the stomach or duodenum.

The incidence of healed and active ulcers detected at routine autopsies in this selected group of schizophrenic patients was at least as high as in the unselected autopsy materials of the general population similarly surveyed. The ratio of duodenal and gastric ulcer and the proportion of healed to active ulcers in the schizophrenic group closely resembled those of the general population groups.

TABLE 2. IMMEDIATE CAUSES OF DEATH FROM PEPTIC ULCER IN 31 PATIENTS

Ulcer	Hemorrhage		Perforation		Elective surgery		Total No.
	No.	%	No.	%	No.	%	
Duodenal	7	27	10	38	9	35	26
Gastric	1	20	4	80	0	0	5
TOTAL	8	26	14	45	9	29	31

This study suggests that the mechanism producing peptic ulcer is also operating in long-term institutionalized, chronically schizophrenic patients.

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### References

1. HENRY, C. W. Some roentgenologic observations of gastrointestinal conditions associated with mental disorders. *Amer J Psychiat* 3:681, 1924.
2. PHILLIPS, R. J. Physical disorders in 164 consecutive admissions to a mental hospital: Incidence and significance. *Brit Med J* 2:363, 1937.
3. ROSS, W. D., HAY, J., and McDOWELL, M. F. The incidence of certain vegetative disturbances in relation to psychosis. *Psychosom Med* 12:179, 1950.
4. SWARTZ, J., and SEMRAD, E. V. Psychosomatic disorders in psychoses. *Psychosom Med* 13:314, 1951.
5. BROSN, H. W. Prognosis in some psychosomatic diseases. *Ann Intern Med* 37:745, 1952.
6. GREGG, D. The paucity of arthritis among psychotic cases. *Amer J Psychiat* 95:853, 1939.
7. GOSLING, R. H. Peptic ulcer and mental disorder. II. *J Psychosom Res* 2: 284, 1958.
8. ROSENBLIETT, S., and MANLEY, L. Study of peptic ulcer in chronic psychosis. *Med Bull Veterans Admin* 17: 136, 1940.
9. WEST, B. M., and HECKER, A. O. Peptic ulcer: Incidence and diagnosis in psychotic patients. *Amer J Psychiat* 109:35, 1952.
10. SIMON, A. Gastro-intestinal disorders in psychoses. *Med Ann DC* 4:106, 1935.
11. HONIG, E. M. Psychosis and peptic ulcer. *Bull Menninger Clin* 19:61, 1955.
12. EHRENTHEIL, O. F. Common medical disorders rarely found in psychotic patients. *Arch Neurol Psychiat* 77:178, 1957.
13. RETTERSTOL, N., and SUND, A. Psychosomatic aspects of ulcer disease illustrated by material from a psychiatric clinic. *J Neuropsychiat* 3:345, 1962.
14. WRETMARK, G. Peptic ulcer individual: Study in heredity, physique, and personality. *Acta Psychiat Neurol Scand Suppl.* 84, 183 pp., 1953.
15. RATHMELL, T. K., and LIEBER, M. M. Pathology among institutionalized psychotics. *J Nerv Ment Dis* 97:397, 1943.
16. POLLAK, O. J., and KREPLICK, F. Peptic ulcers in the insane: Clinical and post-mortem study. *J Nerv Ment Dis* 101:1, 1945.
17. GOSLING, R. H. Peptic ulcer and mental disorder: II. *J Psychosom Res* 2: 284, 1958.
18. SAMET, E. T., WHITE, M. S., and VAUGHN, A. M. Duodenal ulcer in a patient with schizophrenia. *Amer J Dig Dis* 2:437, 1957.
19. ROSS, W. D., HAY, J., and McDOWELL, M. F. The association of certain vegetative disturbances with psychoses. *Psychosom Med* 12:170, 1950.
20. PORTIS, S. A., and JAFFE, R. H. Study of peptic ulcer based on necropsy records. *JAMA* 110:6, 1938.
21. STURTEVANT, M., and SHAPIRO, L. L. Gastric and duodenal ulcer: Frequency, number, size, shape, location, color, sex, and age in seven thousand seven hundred necropsy records at Bellevue Hospital, New York. *Arch Intern Med (Chicago)* 38:41, 1936.
22. GORDON, J. S., JR., and MANNING, J. J. Autopsy survey of gastro-duodenal ulcers in Philadelphia General Hospital, 1920-1937. *Amer J Med Sci* 202:423, 1941.
23. National Office of Vital Statistics. Vital Statistics of the United States, 1954-1959. U. S. Department of Health, Education and Welfare.