A REVIEW OF 938 GASTROSCOPIC EXAMINATIONS*

R. J. F. RENSHAW, M.D.

Modern gastroscopy was introduced in 1932 and was received with mixed enthusiasm and skepticism. Today gastroscopy is an accepted procedure, but it is in a period of re-evaluation. Some of the early enthusiastic claims for the method have been discarded, others modified, and others verified. Except for certain problems in clinical research, gastroscopy is being used chiefly for two diagnostic purposes: (1) to examine the stomach when the clinical and roentgenologic findings do not explain the clinical picture (either negative or indeterminate findings), and (2) to confirm the roentgenologic findings of a gastric ulcer or carcinoma. It has been well demonstrated that the combination of roentgenoscopy and gastroscopy is more accurate than either method alone. If both examiners are in agreement, the clinician may be reasonably certain that the diagnosis is correct. If, however, there is disagreement, further study and observation is indicated. In such instances of disagreement it will be found that on the first examination the roentgenologist will be correct in about 50 per cent of the cases and the gastroscopist correct in about 50 per cent.

We have recently reviewed our experience covering the last 938 consecutive gastroscopic examinations.[1] Our experience is in accord with the foregoing statements and also with Templeton and Boyer[2] who compared the roentgenologic and gastroscopic findings in carcinoma and its benign counterparts. We were able by operation or clinical observation to follow-up 170 patients adequately. (Table 1) In this group of 170 cases both the roentgenologic and gastroscopic diagnoses at the first examination were in agreement and were correct in 109 instances, or 64.2 per cent. In 15 cases, 8.8 per cent, the roentgenologist made the correct diagnosis while the gastroscopist was incorrect or indeterminate. If the examiner admitted some question about the diagnosis even though it subsequently proved to be correct, or if he admitted the possibility of a second or third diagnosis, such diagnoses were considered to be inconclusive and indeterminate. There were 23 cases, 13.5 per cent, in which the gastroscopist made the correct diagnosis while the roentgenologist was indeterminate or incorrect. In 9 instances, or 5.3 per cent, both the roentgenologist and gastroscopist were incorrect, and in 14 cases, 8.2 per cent, both were inconclusive or indeterminate.

---

*An abstract of a paper presented to the American Gastro-enterological Association, Atlantic City, June 8, 1942 and to be published in the American Journal of Digestive Diseases.

TABLE 1

COMPARISON OF FIRST ROENTGENOLOGIC AND GASTROSCOPIC EXAMINATIONS

	Ulcer	Carcinoma	Other Findings			
Concurring Diagnoses	9 (3)	18 (16)	82 (10)		109 (29)	64.2%
X-ray Correct	9	4	2		15	8.8%
Gastroscopic Incorrect or Indeterminate	(1)	(4)	(1)		(6)	
Gastroscopic Correct	5	7	11		23	13.5%
X-ray Incorrect or Indeterminate		(4)	(2)		(6)	
Both Incorrect	3 (3)	5 (5)	1		9 (8)	5.3%
Both Indeterminate				14	14	8.2%

Figures in parentheses indicate cases confirmed by operation or autopsy.

Obviously, one must consider certain qualifying factors in these figures, although the qualifying factors do not invalidate the results. One factor that should be emphasized is that not all the examinations were made by the same roentgenologist or roentgenologists of equal experience. Another factor is that cases of chronic gastritis were included in this comparison. The roentgenologists at the Clinic are of the opinion that they should rarely make a diagnosis of gastritis purely on the basis of the roentgenologic findings. They believe this to be in the field of the gastroscopist. If, then, this series were large enough to limit the comparison to only carcinoma and benign ulcer, no doubt the accuracy of the roentgen diagnosis would be markedly higher. However, the consideration of chronic gastritis was not omitted from this series because chronic gastritis is a definite clinical entity which at times produces disturbing or alarming symptoms and for which we must have some adequate means of diagnosis. At the present time gastroscopy is the only dependable clinical method for the diagnosis of chronic gastritis.

In reviewing these 938 examinations we were interested in determining the incidence of major or significant gastroscopic contributions, the failures, and the reasons for failures. This has been more fully covered elsewhere,[1] but it is of significance that the gastroscopist established the

major diagnosis or added some significant unknown fact to the case that materially altered the treatment or prognosis in 25.6 per cent of all patients examined.

In 55 per cent of the cases examined gastroscopy made a minor contribution. A large part of these were confirmation of normal roentgenologic findings in persons suspected of having irritable colons. Whereas many of these patients formerly had gastroscopic examinations at the first consultation, we now recommend a trial on "bowel management" and if no improvement is noted, then a gastroscopic examination is indicated. Another large part of the 55 per cent was made up of patients with duodenal ulcer in whom gastritis was found. We now omit the routine gastroscopic examination in patients with duodenal ulcer unless some gastric complication is suspected. In light of our present knowledge the coexistence of gastritis with duodenal ulcer has not altered the prognosis or treatment. Perhaps the clinical research worker will in time prove the significance of gastritis and thereby prove the need for gastroscopy in these cases. Whereas gastroscopy was of major value in 25.6 per cent of the cases and of minor value in 55 per cent, there was but 19 per cent where the examination was incomplete or the diagnosis was indeterminate or wrong. The chief cause of unsatisfactory examinations was the gastroscopist's inability to visualize an area in question, for example, a prepyloric ulcer. Two points warrant emphasis regarding the gastroscopic failures. One is the personal equation factor that gastroscopy is a visual method dependent entirely upon the examiner's skill of interpretation. The second important point is the technical difficulties inherent in the method. There are certain constant blind areas and other inconstant blind areas. A portion of the instrument is flexible, and if angulated by anatomical structures beyond its useful range, no picture or an inadequate one is obtained. The stomach is in constant motion and what may be glimpsed at one moment may never be brought into the field again. The clinician asking for gastroscopic consultation should bear in mind these and other limitations of gastroscopy.

On the basis of our experience we believe *gastroscopy is indicated in four groups of patients:*

(1) Those with negative roentgenologic examinations of the gastrointestinal tract in whom one still suspects gastrointestinal disease.

(2) Those with indeterminate or inconsistent roentgenologic findings.

(3) Those with gastric ulcer.

(4) Those with carcinoma, except frank, near-terminal cases.

SUMMARY

A review of 938 consecutive gastroscopic examinations revealed:

1. That the gastroscopist made a significant and major diagnosis not revealed by other methods in 25.6 per cent of all cases examined.

2. That the gastroscopist added a confirmation or a new minor diagnosis in 55 per cent.

3. That the gastroscopic examination was unsatisfactory or indeterminate or incorrect in 19 per cent.

4. That the chief causes of the gastroscopist's failures were technical difficulties inherent in the method. Incorrect diagnoses were but a small percentage.

5. That the gastroscopist is no more likely to be correct or to err in diagnosis than his colleague, the roentgenologist. Using only the first examination for comparison both examiners were in agreement in 64.2 per cent of all cases. Both were wrong in 5.3 per cent, and both were indeterminate in 8.2 per cent. In 22.3 per cent one or the other was indeterminate or incorrect. This latter group was divided approximately equally between gastroscopist and roentgenologist.

A certain percentage of all gastrointestinal problems cannot be considered as having been properly and adequately studied unless a gastroscopic examination has been done, but the clinician must be aware of the fact that while gastroscopy may be of great value it has certain limitations.

We believe the indications as given are conservative and practical.

REFERENCES

1. Renshaw, R. J. F., Clark, George E., and Forsythe, John R.: A critical analysis of 938 gastroscopic examinations. To be published.

2. Templeton, Frederic E. and Boyer, Richard C.: The diagnosis of gastric cancer: An analysis of the gastroscopic and roentgenographic findings. Am. J. Roent. and Radium Therapy, 47: 261-274, February, 1942.