4. STUDIES ON ENDOSCOPICAL DIAGNOSIS OF ATROPHIC GASTRITIS BY GASTROCAMERA ——ESPECIALLY ABOUT DIAGNOSTIC STANDARDS——

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The authors believe that the clinical value of the endoscopic examination should depend on how much the endoscopic findings would be able to correspond with the histological findings; and have frequently enphasized that the importance of careful control of conditions for taking pictures, careful determinations of the degree and type of the gastritis and differentiation of the variable findings depending on the portions of stomach.

Various problems in the diagnosis of atrophic gastritis by gastrocamera still remain to be clarified.

This study was designed to clarify how the currently accepted four criterions for diagnosis of atrophic gastritis by gastrocamera can correlate with what kind of histological findings seen in the stomach with glandular atrophy.

Seventy-eight surgically resected stomachs were used for this study.

Sections for histological examinations were taken from three portions (anterior wall, lesser curvature and posterior wall) of gastric antrum and body respectively. Of these 468 sections, 165 from the antrums and 167 from the bodies revealed glandular atrophy and were used for this study. A statistical comparison was made between the endoscopic criterions and the histological findings in their incidence of appearance;

Endoscopic criterions are; 1) discoloration of the mucosa, 2) thin appearance of the mucosa, 3) appearance of blood vessels and 4) appearance of granular structures. Selected histological findings are; adherent mucus, elongation of pits, disappearance of pits, intestinal metaplasia of the surface epithelium and the gland, interstitial round cell infiltration and edema, interstitial fibrosis, shortning and disappearance of glandular ducts, disappearance of chief cells, appearance of lymph-follicles, enlargement of capillaries, thickning of muscularis mucosae and thinning of mucosa.

As results, of these histological findings, the followings showed statistically significant correlations with the endoscopic criterions;

1) Discoloration of the mucosa on gastrocamera was well correlated with existence of intestinal metaplasia and of thinning of the mucosa in the sections from gastric bodies.

2) Thin appearance of the mucosa on gastrocamera was well correlated with existence of actual thinning of the mucosa on histological examinations of the sections from gastric bodies.

3) In the cases with appearance of the blood vessels on gastrocamera, higher incidence in the appearance of the thinning of mucosa and lower incidence in the thickning of muscularis mucosa were proved on histological examinations of the sections both from gastric-antrums and bodies.

4) In the cases with the appearance of the granular structures on gastrocamera, distinct Area Gastrica was noticed in high incidence. However, this histological finding was not included as one of the characteristics of atrophic gastritis on histological examination.

5. ENDOSCOPICAL DIAGNOSIS OF CHRONIC GASTRITIS: ENDOSCOPICAL RECOGNITION OF "SPECIFIC TYPE OF INTESTINAL METAPLASIA"

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The characteristic endoscopical appearance of the specific type of intestinal metaplasia is multiple, small and flat nodules, scattered mainly in the antrum. These small nodules are flat in height, irregular in size and not uniform in shape. The surface is smooth and grayish white in color, distinguished from rather orange-red color of the surrounding mucosa. These endoscopic features are exaggeratedly observed in the state of less distension of the gastric wall with fairly small amount of air inflation, and these mucosal elevations are easily flattened out of endoscopic recognition when much distended.

The resected stomach shows small upheavals, some of them are solitary and other combined each other to form flat elevations, distributed mainly in the antrum, spreading up to or over the angulus, showing some degree of different upper border in each case. Microscopical study has revealed the existence of high degree of hyperplastic atrophic gastritis accompanied by severe intestinal metaplasia in the very nodules and, on the contrary, simple atrophic gastritis in the surrounding mucosa without or if accompanied, with very slight degree of intestinal metaplasia.

Nine consecutive gastrectomized cases which have almost same endoscopic features and histological findings as above described were experienced. All of them has very similar endoscopic appearance, peculiar but characteristic, which is typically and easily observed in the small amount of air inflation. The main feature is the existence of flat nodules with smooth surface, which are irregular in size and grayish white in color, easily disappear as distension of the gastric wall, and scattered mainly in the antrum, just like "stepping stone" or "garden stone".

From the experience of 9 resected cases, we could conclude the possibility of making endoscopic diagnosis of this peculiar type of intestinal metaplasia, designating it as "specific type of intestinal metaplasia".

The incidence of this specific type of intestinal metaplasia is 2.2% (23 cases, of which 9 were resected) out of 1,027 cases of endoscopic examination. Judging from the histological knowledge acquired from 9 operated cases, the resting 14 cases are considered to belong to the specific type of intestinal metaplasia which is characterized by its peculiar endoscopic appearance of flat nodules composed of marked degree of hyperplastic atrophic gastritis with remarkable intestinal metaplasia, whose existence is ascertained by biopsy in all cases. Of course, more mild degree of intestinal metaplasia which could not be recognized endoscopically will naturally exist. Among 408 biopsied cases 181 shows the existence of intestinal metaplasia, 23 cases of which are specific type and other 158 are not acknowledged endoscopically.

Now when it has become possible to recognize endoscopically the specific type of intestinal metaplasia, the problem is how to realize the other type of intestinal metaplasia which do not have such characteristic endoscopic appearance.

6. MICROANGIOGRAPHIC AND PATHOLOGICAL STUDY

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We obserbed the gastritis with the microangiography, that we have performed for several years, and pathological study is done at the same time.

For the purpose of these experiments, through the gastric arteries of the removed stomach is lavaged with normal saline added by heparin and injected barium mixed with gelatine. Following the fixation with formalin, radiography is performed with soft X-ray. 2000, 1000 and 500 microns specimens are prepared and performed radiography again. 250 and 150 microns specimens are prepared for stereomicroscopic procedure with transilumination. At the same time, ordinary H. E. staining is carried out. Comparing with the atrophy of proper gastric glands, cellular infiltration and fibrosis in the mucous membrane, the mold of the intramucosal blood vessels are traced which are important on the comprehension of the area gastricae, color