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What is the specific appearance and real frequency of gastric neoplasia in FAP patients?

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Familial adenomatous polyposis (FAP) is a rare (1/8000 persons in the general population) autosomal-dominant genetic predisposition to 3 majors risks including colorectal cancer, duodenojejunal cancer, and desmoid tumors. FAP patients frequently present with gastric polyps of different histologies. Fundic gland polyps usually are located in the fundus and sessile adenomas are mainly located in the antrum. Fundic gland polyps (FGP) are frequent lesions in the general population (0.8%-2% of upper digestive endoscopies) and represent the first histology for gastric polyps (47%) [1, 2]. In FAP patients, their reported frequency is highly variable, probably dependent on the quality of (mostly) retrospective evaluations, from 12% to 84% of cases [3]. In our experience, it is relatively infrequent that no FGP is observed in FAP patients. FGPs rarely show dyplasia on biopsies, although a degree of inflammation may mislead some pathologists to diagnose low-grade dysplasia. Rare series reported a high (25%) prevalence of low-grade dysplasia in FGP of FAP patients [4]. On the other hand, the risk of gastric cancer seems to be low in FAP patients, at least in Western countries as reported by the Johns Hopkins series in 1982 in which no significant increase in cancer risk was reported compared to a control population (2 cancers in 1391 patients/year) [5]. Some series also describe flat or sessile adenomas in the antrum of FAP patients, which correspond to a majority of dysplastic gastric lesions in our experience [5]. Finally, there is no clear consensus regarding the risk of gastric cancer, the risk of dysplastic evolution of FGP, and if this risk is linked to the presence of *Helicobacter pylori* gastritis.

In this issue of Endoscopy International Open, Nakamura and colleagues report on results of a retrospective series of 80 FAP patients with a relatively high prevalence (27.5%) of gastric dysplasia, including 46% adenomas (and thus 54% mostly non-invasive carcinomas) within a 14-year period of follow-up and a mean 6.5 years follow-up [6]. Analysis of the background mucosa is of interest. Tumors occurred in 2 groups of patients: 50% in patients with atrophic gastritis probably related to *H pylori* infection and without FGP, and 36% in patients without atrophic gastritis and FGP. The location of dysplastic lesions according to the type of background mucosa is not detailed in this study, which could add to the understanding of the pathophysiology of dysplasia. In our experience, well-circumscribed round adenomatous lesions occur in the antrum of FAP patients with atrophic/*H pylori*-related antral mucosa and without FGP. On the other hand, we recently described flat and whitish fundic dysplasia occurring as a lateral spreading neoplastic lesion covering FGP in patients with no atrophic gastritis and mostly profuse fundic gland polyposis [7]. This aspect is typically that of the flat dysplasia showed in the Nakamura paper in Fig. 3 [6]. It would be of high interest to know how often Nakamura and colleagues observed this aspect of flat whitish fundic dysplasia and in what percentage of patients with FGP and no atrophy. Thus this study could gain in clinical importance by analyzing different macroscopic subtypes of gastric neoplasia occurring in different parts of the stomach and in a different background of normal/abnormal gastric mucosa.

One important result of this work by Nakamura and colleagues is the excellent prognosis for patients with identified and resected tumors, including a high percentage (54%) of carcinomas. One explanation for that is the high level of expertise of Japanese endoscopists regarding gastric examination, and of this expert Tokyo team in particular. Thus, there is a question whether such impressive results could be duplicated by a less experienced team, and if gastric neoplasia in FAP may represent a difficult challenge. One other explanation is the classification of neoplasia in Japan. Some of the 14 cancers may correspond to the category V.1 of the Vienna classification in Western countries, thus corresponding more to high-grade dysplasia in

adenoma than to a Vienna V neoplasia. Control reading by a Western pathologist could clarify this point. Anyway, compared to colorectal cancer and desmoid tumors, gastric tumors in this series were never responsible for FAP-related death, which corresponds to the often favorable Western experience in this context.

In conclusion, this study demonstrates a higher prevalence of gastric dysplastic lesions as expected from previous but mostly old studies, and may lead to reevaluation of the risk of gastric neoplasia in such patients and modification of surveillance recommendations at the gastric level. Of course, comparable studies in different, non-Japanese populations are warranted given the significantly higher risk of cancer in Japan as compared to Western countries. This study also introduces several important questions that we should address before modifying and adapting our surveillance practices in FAP. For the future, the following issues should be addressed before any practice recommendation in FAP patients: (1) Prospective evaluation of the frequency of whitish fundic dysplasia and of (maybe) other types of dysplasia in a cohort of FAP patients; (2) Comparison of the incidence of development of antral dysplasia from well-circumscribed sessile or flat neoplasia; (3) Recalculation of the relative risk and absolute risk of gastric dysplasia and cancer in FAP patients; and (4) Identification of the relationship between *H pylori* infection and gastric neoplasia in FAP. At present, it is of real importance to educate gastroenterologists throughout the world about these elementary and specific gastric lesions to improve detection of them and to work with pathologists to improve their identification and management.

Competing interests

None

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