Intestinal metaplasia surveillance: Searching for the road-map

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Abstract

Atrophic gastritis and intestinal metaplasia (IM) of the stomach are common and are associated with an increased risk for gastric cancer. In the absence of guidelines, a pragmatic management has been performed in Western countries in patients with these premalignant conditions. Recently, formal European guidelines have been delivered on this topic. Basically, it has been recommended that patients with extensive atrophic gastritis (AG) and/or extensive IM should be offered endoscopic surveillance every 3 years. On the contrary, no scheduled endoscopic/histological control has been advised for those patients with precancerous conditions confined to the antrum. In this commentary, we highlighted some potential weaknesses in the management formally recommended by the new guidelines. In detail, we discussed that AG and IM patients do not share the same gastric cancer risk, at least in Western countries, deserving a different approach. Some factors significantly associated with gastric cancer risk, such as IM type, first-degree family history of gastric cancer, and smoking habit have not been considered in tailoring the endoscopic follow-up. Finally, some data would suggest that a 3-year follow-up in patients with extensive gastric precancerous conditions could result in an inadequate secondary prevention.

Key words: Intestinal metaplasia; Guidelines; Atrophic gastritis; Gastric cancer; Follow-up

COMMENTARY ON HOT TOPICS

We read with great interest the recent article by Dinis-Ribeiro et al[1] reporting the first European Guidelines on management of precancerous conditions and lesions in the stomach (MAPS), and strongly recommend it to readers. Despite gastric cancer incidence is decreasing, such a neoplasia remains the fourth most prevalent tumor and second most frequent cause of cancer-related mortality in the world[2]. The endoscopic-based screening programs performed in a few Asian countries[3], where the gastric cancer incidence is extremely high, are not feasible in other countries due to a distinctly lower frequency of such a neoplasia. Therefore, in the Western countries, surveillance of precancerous conditions [gastric atrophy and intestinal metaplasia (IM)] and lesions (dysplasia) is the only reliable procedure able to either reduce gastric cancer onset - i.e., by removing dysplasia areas at endoscopy or to diagnose an already-developed cancer in an early stage, so that patient survival is distinctly improved[4,5]. However, the American Society for Gastrointestinal Endoscopy Guideline recommended against the surveillance...
for patients with IM\textsuperscript{[8]}. Until few months ago, no European guidelines were available on the management of these precancerous lesions, leaving both gastroenterologists and general practitioners (GP) to empirically manage these patients without any actual reference standard. For this reason, Dinis-Ribeiro \textit{et al.}\textsuperscript{[1]} should be commended for having organized a workshop involving a vast panel of experts, in order to deliver the first European guideline on such a topic.

According to these new guidelines, it has been recommended that patients with extensive atrophy gastritis (AG) and/or extensive IM - \textit{i.e.}, involving both antral and gastric body mucosa - should be offered endoscopic surveillance (evidence level 2++, recommendation grade B) every 3 years (evidence level 4, recommendation grade D). On the contrary, no scheduled endoscopic/histological control has been advised for those patients with precancerous conditions confined to the antrum. Therefore, both gastroenterologists and GPs have now a “road map” to systematically schedule the surveillance in patients with either AG or IM.

Although any guideline is better than no guideline, we would further discuss some potential flaws entailed in the management recently recommended. First, it might appear questionable that the same endoscopic follow-up has been advised for both AG and IM patients. In a nationwide study\textsuperscript{[7]}, the 10-year gastric cancer incidence was estimated to be 0.8% and 1.8% in 22,365 AG and 61,707 IM patients, respectively, corresponding to an adjusted yearly incidence of 0.055% and 0.1%\textsuperscript{[8]}. Given the two-fold different gastric cancer risk, perhaps a differently scheduled endoscopic surveillance should be proposed for AG and IM patients. Differently from IM\textsuperscript{[9]}, a strict follow-up in AG patients may be not cost-effective in Western countries\textsuperscript{[10]}. Therefore, IM patients with at least 1 of these risk factors (incomplete IM, family history, smoking habit) - information easily available in clinical practice - would appear at a further increased risk of gastric cancer and may probably benefit from a more intensive endoscopic surveillance, rather than the 3-year follow-up uniformly suggested for all patients\textsuperscript{[8]}. We recently proposed a patient individualized follow-up with an yearly endoscopic control in those patients with conjunctive risk factors, and a less intensive (2-3 years) follow-up in the remaining IM patients\textsuperscript{[10]}. For instance, a patient with incomplete IM confined to the antral mucosa would not appear to be at lower gastric cancer risk as compared to a patient with extensive, complete IM. Similarly, a smoker patient with complete IM in the antrum or with a family history of gastric cancer likely deserves endoscopic surveillance, contrary to what recommended by the MAPS. However, further studies on this topic are needed.

Finally, the gastric biopsy sampling proposed in the MAPS includes ≥ 2 biopsies in the antrum and ≥ 2 biopsies in the gastric body. However, in the updated Sydney System, 5 biopsies were recommended, including 1 additional specimen on the \textit{incisura angularis}\textsuperscript{[19]}. The need of this additional biopsy was based on the evidence that IM prevalence is higher in this gastric site as compared to any other part of the stomach\textsuperscript{[20]}. Indeed, IM generally initiates in the \textit{incisura angularis}, subsequently spreading in both antrum and gastric body\textsuperscript{[20]}. Despite it could be argued that IM only located in the angular does not increase gastric cancer risk, it is also true that IM would presumably spread to both antrum and body in the majority of patients\textsuperscript{[21]}. Therefore, by simply taking 1 biopsy on the angular it is possible to early detect IM - that is a generally irreversible, precancerous lesion\textsuperscript{[22]}. Taking 1 further biopsy on the angular is a simple and rapid procedure, without any additional patient discomfort and cost.
Indeed, as suggested in the Operative Link for Gastritis Assessment (OLGA) system, the additional biopsy specimen taken on the angulus should be pushed in the same vial of antral biopsies[23]. The MAPS guideline did not include angulus biopsy among the recommendations.[1]. However, the guideline suggested that biopsies should be histologically assessed according to the OLGA/OLGIM system[24], for which 5 biopsies (1 on the angulus) are required. Therefore, it would appear reasonable to include indicate antrum in the biopsy sampling.

In conclusion, while waiting for large prospective, randomized, multicenter studies comparing different follow-up strategies, it would appear reasonable to take into account some additional risk factors for gastric cancer in the follow-up strategy for management of gastric pre-cancerous lesions. A simple, patient-tailored surveillance may be probably more appropriate than a single schedule proposed for all patients. Despite MAPS represents a good start, a more patient-orientated road-map(s) could be also considered.

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Zullo A et al. Intestinal metaplasia follow-up

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