Gastrointestinal lymphomas of mucosa associated lymphoid tissue (MALT) – a report of 7 Sri Lankan cases

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Abstract

Introduction: Lymphoma of mucosa associated lymphoid tissue (MALT) is a distinct recently described subtype with a good prognosis. It is often confused with other variants of Non Hodgkin's lymphoma (NHL) with a poor prognosis.

Objective: 1. To determine the proportion of MALT type lymphoma in gastrointestinal lymphomas previously diagnosed as NHL. 2. To determine if low grade MALT lymphomas are associated with high grade lymphomas.

Method: Histology slides of nine NHL of the stomach, ileum and colon, diagnosed between 1987-1995 at the University Department of Pathology, Peradeniya were reviewed for diagnostic criteria of MALT type lymphoma.

Results: Seven tumours were subtyped as low grade MALT lymphomas. Four of these showed coexistent high grade large cell lymphoma.

Conclusion: 77.7% of gastrointestinal lymphomas were of MALT type. The coexistence of high grade lymphoma in 4 cases indicates that MALT lymphomas can transform into large cell lymphomas.

Introduction

Lymphomas of mucosa associated lymphoid tissue (MALT) were first described by Isaacson and Wright in 1983[1] as a distinctive type of B-cell Non Hodgkin's Lymphoma (NHL) involving the gastrointestinal tract (GIT). However all GIT lymphomas are not of MALT type. They could be large cell or large cell immunoblastic lymphomas, mantle cell lymphomas, small lymphocytic lymphomas or T cell lymphomas[2]. Recognition of MALT lymphomas as a separate subtype of NHL is important because they remain localized at the site of origin for a long time, tend to relapse in the same or other mucosal sites and if localized may be cured[3,4].

Most pathologists in Sri Lanka use the international working formulation to classify NHL[5]. In this classification there is no category named MALT lymphoma. Thus the objective of this retrospective study was to determine the proportion of MALT type lymphoma in GIT lymphomas previously diagnosed as other categories of NHL. We also wanted to determine if low grade MALT lymphomas were associated with high grade lymphomas.

Method

A total of nine gastrointestinal lymphomas had been reported at the Department of Pathology, University of Peradeniya during a 9 year period between 1987-1995. The slides which had been stained with haematoxylin and eosin were reviewed for features of low grade MALT lymphoma.

Results

Seven tumours were subtyped as low grade MALT lymphomas. Four of these showed coexistent high grade large cell lymphoma. Two cases were high grade NHL without evidence of coexistent MALT lymphoma. The clinical features of the 7 cases of MALT lymphoma are shown in Table 1. Follow up data of patients is not known as this was a retrospective study.

All cases showed diagnostic criteria for low grade MALT lymphoma which included the presence of lymphoepithelial lesions (Figure 1), reactive follicles and a mixed diffuse population (Figure 2) of centrocyte like cells, small round lymphocytes,

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Table 1

Clinical Features of 7 patients with MALT lymphoma

Case No:	Age (years)	Sex	Site	Mesenteric nodes	Microscopy	Depth of penetration
1	56	Female	Terminal ileum	Enlarged	High + low grade MALT lymphoma	Confined to bowel wall,
2	57	Female	Ascending colon	Enlarged	High + low grade MALT lymphoma	Extended to mesenteric fat
3	55	Male	Pylorus of stomach	Enlarged	High + low grade MALT lymphoma	Extended to mesenteric fat
4	33	Male	Ileum	Not enlarged	High + low grade MALT lymphoma	Penetrated the muscularis propria and extended to the serosal surface
5	50	Male	Stomach	Not enlarged	low grade MALT lymphoma	Penetrated the muscularis propria and extended to the serosal surface
6	Not known	Not known	Ileum	Not enlarged	low grade MALT lymphoma	Penetrated the muscularis propria and extended to the serosal surface
7	10	Male	Colon	Not enlarged	low grade MALT lymphoma	Confined to bowel wall

monocytoid cells and plasma cells[2,6]. In the 4 cases where there was co-existent high grade lymphoma, the low grade MALT lymphoma component was situated at the periphery with the high grade lymphoma occupying the central part of the tumour mass or ulcer. There was marked destruction of glands in the high grade areas and lymhoepithelial lesions were absent. The high grade component was composed of lymphocytes with larger nuclei, clumped chromatin and frequent mitotic figures (Figure 3). In all cases where the mesenteric lymph nodes were enlarged they were effaced by a high grade large cell lymphoma similar in appearance to that in the GIT. Low grade MALT lymphomas without a high grade component were not associated with enlarged mesenteric lymph nodes.

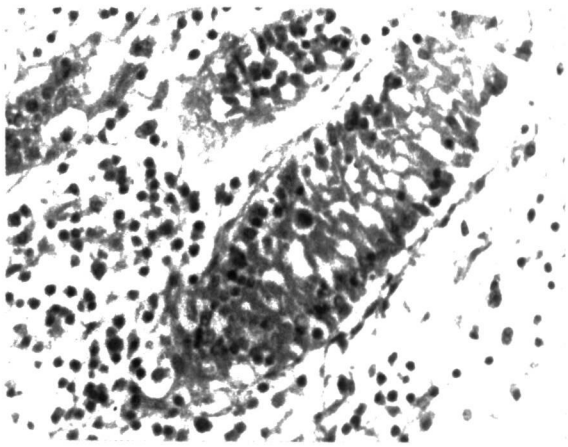

Figure 1. Lymphoepithelial lesion; infiltration of mucosal glands by lymphocytes (haematoxylin and eosin × 400).

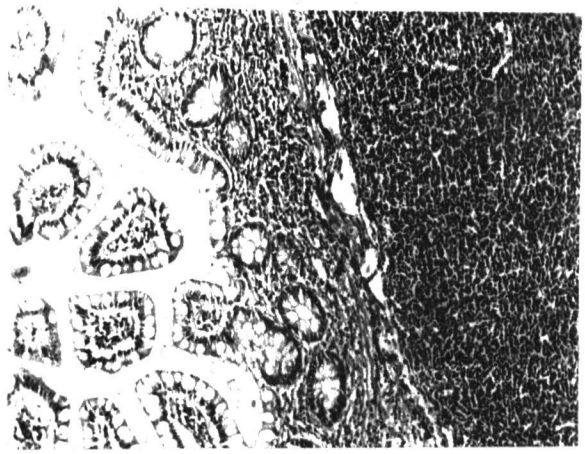

Figure 2. Low grade MALT lymphoma; diffuse infiltration of mucosa and submucosa by lymphocytes (haematoxylin and eosin × 100).

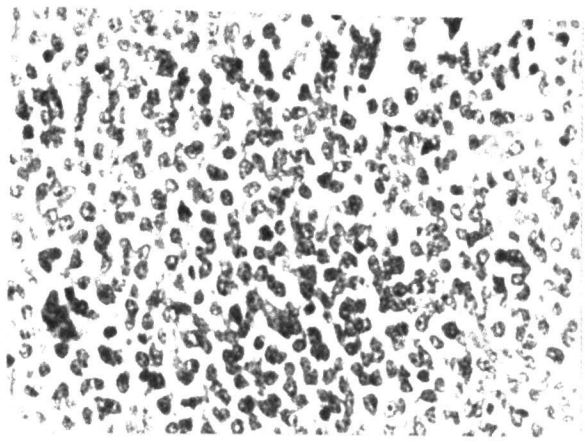

Figure 3. High grade area in MALT lymphoma (haematoxylin and eosin × 400).

Discussion

The clinical, behavioural and pathological features of MALT lymphomas are sufficiently distinctive for them to be considered as a specific sub type of NHL. The concept of lymphomas of MALT has been currently expanded to include several extranodal sites[4,7]. Most extranodal MALT lymphomas arise in sites without normal MALT such as the stomach, salivary glands and thyroid[6,8]. This is explained by the proposal that they arise in a setting of "acquired MALT". This nonindigenous lymphoid tissue is acquired secondary to an infection such as Helicobacter pylori in the stomach[9] or an autoimmune disease such as Sjogren's syndrome in salivary glands or Hashimoto's disease in the thyroid[6]. The growth pattern and immunophenotype of the centrocyte like cells in MALT lymphoma suggest that they may represent neoplastic marginal zone cells[8]. The tendency of MALT lymphomas to evolve slowly, remain localized and to involve other mucosal sites when they do spread, may be due to specific homing patterns of MALT derived lymphocytes[4]. MALT lymphomas are consistently CD 10 negative and fail to show rearrangement of the bcl-2 proto-oncogene both of which are characteristic features of follicular center cell lymphomas[3]. Similarly MALT lymphomas are CD 5 negative and fail to show bcl-1 gene rearrangement which helps to distinguish them from mantle cell lymphomas[3,10].

The association of high grade lymphoma and low grade MALT lymphoma as seen in 4 of our cases has been described previously by Chan and co-workers who found 10 cases with this association in a series of 48 gastric lymphomas[11]. They suggested that the likelihood of finding this association may increase with the number of sections examined. In their series the immunophenotype of the low and high grade components were similar providing strong evidence that the two components evolve from the same clone. Both high and low grade MALT lymphomas show a favourable behaviour when compared with nodal lymphomas[8,12].

Early gastric MALT lymphomas are known to regress with treatment for Helicobacter pylori[13]. Local surgery has been adopted as a potentially curative therapeutic modality for MALT lymphoma. However local relapse has been reported often after a long disease free interval, even in patients where the initial excision seemed to be complete[14]. Therefor patients should be followed up regularly.

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