Gastroenterology: When Infections turn nasty...

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History and Examination

- 73 year old male
- PMH: DM2
- Non smoker: Social Alcohol

- 4 month history of:
  - Alternating bowel habit with mucus PR
  - No PR bleeding, abdominal pain, weight loss
  - No UGI symptoms

- Physical examination including PR – NAD
Blood results

- Hb 143 g/dL
- WBC 3.1 x10^9/L
- U&Es – NAD
- LFTs – NAD
 Colonoscopy

- 50mm polypoidal sigmoid lesion – biopsied
Staging CT scan

- Sigmoid lesion
- No obvious metastases
- 30mm gastric lesion
30mm gastric cardia lesion with unifocal ulceration – biopsied
30mm smooth, heterogeneous hypoechoic lesion

- involving mucosa, submucosa and muscularis propria

- FNA done
Potential diagnoses
Histology

- **Sigmoid:**
  - Dense lymphoid infiltrate
  - No evidence of adenocarcinoma
  - No spindle cells
  - **Immunohistochemistry:**
    - Lymphoid infiltrate
    - CD20+ B cells
    - BCL-2 positive
    - CD43 negative
    - Cylin D1, CD10, BCL6 negative

- **Gastric:**
  - Dense lymphoid infiltrate
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  - **Immunohistochemistry:**
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Mucosa Associated Lymphoid tissue (MALT) lymphoma

More specifically

Multi-focal MALT Lymphomas

N.B. different immunohistochemistry of each MALToma
Sigmoid lesion
- Resection
- Histology confirmed a MALToma

Gastric lesion
- Helicobacter pylori eradication – no response
- Rituximab – no response
- Bendamustine and Rituximab – resolution after 3 cycles
Discussion

- MALToma is a subtype of B–cell non–Hodgkins Lymphoma (1)
- 5–10% of all GI neoplasms are lymphoma
- 17% of these are MALToma (1)
- 50% of GI MALTomas affect stomach – commonly due to chronic Helicobacter infection (1)
- Colonic lesions ~10% (1)
- Synchronous lesions are rare – case reports only (2,3,4,5)
  - Why do they occur?
    - Seeding?
    - Generalised MALT activation?
Treatment

- Low grade gastric MALToma
  - H. pylori cure
  - 20% do not respond to HP cure
    - Treated with rituximab +/− chemotherapy (6)

- High Grade/Colonic
  - Surgery
  - Rituximab
  - Chemotherapy – usually CHOP (cyclophosphamide, doxorubicin, vincristine, prednisolone), or bendamustine with rituximab (7)
How does H. pylori lead to MALToma…

- MALT is part of the normal GI tract immune system
  - provides a localized response to antigenic challenges

- H. pylori infection leads to MALT proliferation

- With sustained antigenic stimulus the lymphocytes within the MALT can undergo cumulative mutations leading to clonal proliferation $\Rightarrow$ MALTomas (7)
### Other neoplasms linked to chronic infections.....

- Any offers...

<table>
<thead>
<tr>
<th>Infection</th>
<th>Neoplasm</th>
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<tbody>
<tr>
<td>H.Pylori</td>
<td>Gastric Cancer</td>
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<tr>
<td>Epstein Barr Virus</td>
<td>Burkitt’s Lymphoma</td>
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<tr>
<td>Human Papilloma Virus</td>
<td>Cervical Cancer</td>
</tr>
<tr>
<td>Hepatitis B/ Hepatitis C</td>
<td>Hepatocellular Carcinoma</td>
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<tr>
<td>Schistosma Worms</td>
<td>Bladder Cancer</td>
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<tr>
<td>Human Herpes Virus 8</td>
<td>Kaposi’s Sarcoma</td>
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<td>Human T–Cell lymphotropic Virus</td>
<td>T–Cell Leukaemias</td>
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Conclusion

- 73 year old man with synchronous upper and lower GI MALTomas of distinct IHC pattern

- Responded well to surgery and chemotherapy

- Gastric MALTomas believed to be indolent – should they have a screening colonoscopy?

- Several chronic infections linked to neoplasms