IgG4 Related Diseases of the Head and Neck

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Young Woman from Casablanca
Storiform fibrosis
Obliterative phlebitis

IgG4
My Diagnosis

IgG4-Related Sialadenitis
52 year old male

Oral ulcer
10 year old male

2.5 cm pharyngeal mass
? IgG4
IgG4 Related Disease

• An chronic inflammatory disease
  – Characterized by relapses and remissions

• Frequently mass forming

• Frequently mimics tumor/lymphoma

• Multifocal disease

• Responds to steroids
Histologic Characteristics of IgG4-related disease

- Dense lymphoplasmacytic inflammation
- Storiform type fibrosis
- Obliterative phlebitis
Storiform type fibrosis
Storiform type fibrosis
Obliterative phlebitis
Obliterative phlebitis

Elastic stain
IgG4: IgG > 40%
IgG4 Related Disease

Diagnosis required both

- Characteristic histologic features
  - Dense lymphoplasmacytic infiltrate
  - Storiform type fibrosis
  - Obliterative phlebitis
  
- Elevated numbers of IgG4 positive plasma cells
- Elevated IgG4 to IgG ratio > 40%
Autoimmune pancreatitis
Riedel’s thyroiditis
Pseudotumors of ….:
• Orbit
• Lung
• Breast
• Prostate

Lung
Sialadenitis

Sclerosing cholangitis

Retroperitoneal fibrosis

Lymphadenopathy

Kidney

Pachymeninges

Dacryoadenitis

Hypophysitis

Sclerosing cholangitis

Skin

Aorta

IgG4-RD
Names of Previously-Recognized Conditions That Comprise Parts of the IgG4-Related Disease Spectrum

Mikulicz’s disease
Küttner’s tumor
Riedel’s thyroiditis
Eosinophilic angiocentric fibrosis
Multifocal fibrosclerosis
Inflammatory pseudotumor
Idiopathic cervical fibrosis
59/M

Resected submandibular gland
Cellular interlobular stroma
Obliterative phlebitis
Obliterative phlebitis
Diagnosis

IgG4-Related Sialadenitis
Parafollicular granulomas
IgG4-RD with Parafollicular Granulomas
IgG4 Related Sialadenitis

- **Demographics**
  - Mean age 61 years (range: 27 to 80)
  - M:F = 1:1

- **Site**
  - >80% submandibular gland
  - Parotid involvement less common

- **Clinical data**
  - Serum IgG4 seldom increased in patients with disease isolated to the gland
What is the most common entity incorrectly diagnosed as IgG4-related sialadenitis?
55 year old male
Submandibular gland
Chronic sialadenitis-NOS
<table>
<thead>
<tr>
<th>Feature</th>
<th>IgG4 related sialadenitis</th>
<th>Chronic Sialadenitis-NOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellular stroma</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Obliterative phlebitis</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Large germinal centers</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Stone</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>IgG4</td>
<td>+++</td>
<td>+/-</td>
</tr>
<tr>
<td>Response to steroids</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
IgG4 Related Sialadenitis  Chronic sialadenitis-NOS
Multigland Involvement
Serum IgG4 = 1800 mg/dl
IgG4-Related Disease

Before Rituximab

2 month after Rituximab
Multi-gland IgG4 RD
IgG4 Related Disease

Lip biopsy

IgG4
55/M Parotid mass
Storiform type fibrosis
Giant cells
Microgranulomas

ANCA+

Wegener’s granulomatosis
Wegener’s granulomatosis

Classic pathologic triad:
vasculitis, tissue necrosis, and
granulomatous inflammation
IgG4 Related Thyroid Disease
Hashimoto’s thyroiditis

HT with ↑ IgG4 + cells

FVHT

RT

Definitive IgG4-RD
Possibly IgG4-RD
Not IgG4-RD

FVHT – Fibrosing variant of Hashimoto thyroiditis

Reidel thyroiditis
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Oral ulcer
IgG4

IgG
Imunohistochemistry for T. pallidum
Increased IgG4 positive cells in infections


10 year old male

2.5 cm pharyngeal mass
ALK

Inflammatory myofibroblastic tumor

THBS1-ALK fusion
Words of Wisdom!

- Mass lesion with a dense inflammatory infiltrate
- And it’s not lymphoma
- Consider
  - IgG4-related disease
  - Wegener (granulomatosis and polyangiitis)
  - Inflammatory myofibroblastic tumor
  - Infection