Tornwaldts cyst
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Case Type: Clinical Cases
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Patient: 68 years, male

Clinical History:
A 68 year old man presented to the ENT clinic with sore throat and foreign body sensation in the throat. Clinical examination was unremarkable. A fibre-optic naso-pharyngo-laryngoscopy showed some slight fullness in the nasopharynx. A MRI of the neck was carried out to further evaluate this region.

Imaging Findings:
A 68 year old man presented to the ENT clinic with sore throat and foreign body sensation in the throat. Clinical examination was unremarkable. A fibre-optic naso-pharyngo-laryngoscopy showed some slight fullness in the nasopharynx. A MRI of the neck was carried out to further evaluate this region. This showed a well defined 2 x 2 cm mass arising in the midline from the posterior wall of the naso-pharynx just anterior to the pre-vertebral muscles. It was of relatively high signal intensity on T1 weighted images. It showed thin rim contrast enhancement with intravenous gadolinium. It was of intermediate to high signal intensity on T2 weighted images. The appearance and position of the mass was consistent with Tornwaldt cyst which was complicated by infection or an element of haemorrhage. He underwent an endoscopic surgery for this mass, following which his symptoms improved significantly.

Discussion:
Tornwaldt's cyst is a benign developmental nasopharyngeal cyst. It is midline in position and covered by mucosa anteriorly and bounded by longus muscles posteriorly. It is also called as nasopharyngeal or pharyngeal bursa. Embryologically, it represents notochordal remnant where embryologic notochord and endoderm of primitive pharynx come into contact. If an adhesion occurs at the point of contact, a small midline diverticulum lined by pharyngeal mucosa is formed as notochord ascends into clivus. If the opening to the midline diverticulum is closed following inflammation (for example due to infection or post adenoidectomy), this results in the formation of thornwaldts cyst. It is a common lesion of nasopharyngeal mucosa and may be seen upto 5 % of routine brain MR. It most commonly presents in young adults, affecting individuals ranging from 15 years to 60 years. It is usually asymptomatic. However, it can get chronically infected resulting in a painful large cyst (>2cms) and may also cause periodic halitosis. They are best diagnosed using MRI. On T1 weighted image, it shows intermediate to high signal depending on protein concentration of the contents. On T2 weighted image, it is seen as high signal intensity midline nasopharyngeal cyst. The surrounding mucosa and prevertebral muscles look normal. Slight enhancement of cyst wall may be seen on T1 images following gadolinium. Differential diagnoses includes adenoidal hyperplasia and retention cysts in pharyngeal mucosal space. Most of the thornwaldts cysts are asymptomatic and no treatment is required. However, if chronically infected, and symptomatic, excision or marsupialisation can be done via a trans oral route or endoscopic approach.
Differential Diagnosis List: Tornwaldt's cyst

Final Diagnosis: Tornwaldt's cyst

References:

Description: coronal T2 weighted image showing the midline mass in the nasopharynx having an intermediate to high signal. Origin:
Figure 2

**Description:** sagittal T2 weighted image showing the midline cyst

**Origin:**
Description: Axial T1WI showing a relatively high signal intensity mass in the nasopharynx.
Description: There is a thin rim of contrast enhancement in the periphery of this cyst. Origin: