ORL 26

27–30 OCTOBER 2026
THE CORDIS HOTEL, AUCKLAND
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79TH ANNUAL GENERAL AND SCIENTIFIC MEETING

Radiologically Occult Nasopharyngeal Carcinoma: The Importance of Clinical Suspicion and Repeat Biopsy

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Background

Nasopharyngeal carcinoma (NPC) may present with subtle otological symptoms and focal mucosal abnormalities, particularly around the **fossa of Rosenmüller (FOR)**. Although MRI is highly sensitive for NPC, early or predominantly mucosal disease may remain radiologically occult.

Case presentation

A 40-year-old ex smoker was investigated for **left asymmetric hearing loss and Eustachian tube dysfunction**.

Flexible nasoendoscopy demonstrated subtle abnormal tissue in the **left FOR/Eustachian tube orifice**. Initial biopsy was reported as **nasopharyngeal carcinoma in situ**. Additional mapping biopsies showed no malignancy. Given no demonstrable invasion, endoscopic surveillance was undertaken.

Figure 2: Post-gadolinium T1 MRI: 2023 (a/b) and 2025 (c/d).d

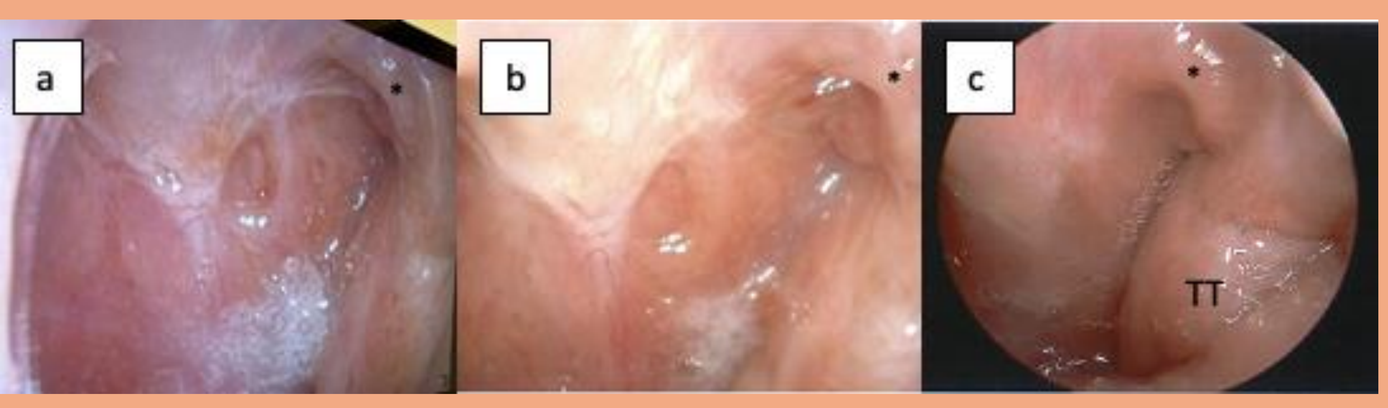

Figure 1: Endoscopic views of left postnasal space: 09/2023 (a), 12/2025 (b), 01/2026 (c). *Abnormal tissue at the left fossa of Rosenmüller; TT = torus tubarius*

Three years later the patient re-presented with intermittent **left aural fullness and tinnitus**. Nasoendoscopy redemonstrated **persistent unilateral polypoidal change at the left FOR**, despite reassuring imaging.

Diagnostic challenge

Nasoendoscopy: persistent focal abnormality
MRI: no discrete nasopharyngeal mass
PET: no FDG-avid primary or metastatic disease

Persistent endoscopic abnormality, despite reassuring imaging, prompted repeat deep biopsy.

Histology

Repeat biopsy demonstrated:

- **Non-keratinising nasopharyngeal carcinoma**
- **EBER positive,** p16 negative
- Specialist pathology review reclassified the original biopsy as **early invasive disease**

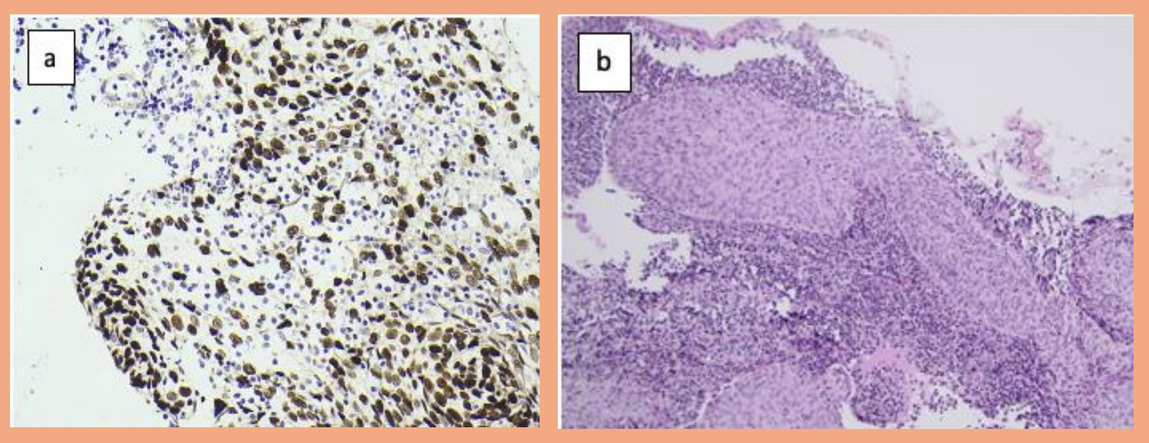

Figure 3: Histopathology. (a) EBER in-situ hybridisation showing nuclear positivity (×200). (b) H&E demonstrating early invasive non-keratinising squamous cell carcinoma (×100).

Management & Outcome

Following multidisciplinary discussion and staging PET, the patient was referred to Radiation Oncology for **definitive radiotherapy**. Ongoing clinical and endoscopic surveillance is planned.

KEY LEARNING POINTS

1. **Persistent focal endoscopic abnormality warrants investigation despite reassuring imaging.**
2. **Early NPC may be occult on MRI and PET.**
3. **Repeat targeted deep biopsy can establish the diagnosis when suspicion persists.**

*Scan QR code to read the published case report.