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Serial CT Evolution of Contained Hypopharyngeal Perforation Following Chemoradiotherapy: *Lessons from Retrospective Imaging Review*

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Introduction

To demonstrate the sequential CT evolution of a contained hypopharyngeal perforation following chemoradiotherapy (CRT) for recurrent hypopharyngeal squamous cell carcinoma (SCC) and to highlight subtle antecedent imaging findings that may facilitate earlier recognition of this rare but serious complication.

Methods

A 50-year-old male with T4N1 keratinizing SCC of the hypopharynx extending into the cervical oesophagus underwent induction chemotherapy with carboplatin and paclitaxel followed by definitive concurrent CRT (55 Gy in 20 fractions). Serial contrast-enhanced CT examinations obtained during post-treatment surveillance were retrospectively reviewed and correlated with endoscopic, histopathological, and clinical findings to characterize the temporal evolution of a subsequently confirmed contained hypopharyngeal perforation.

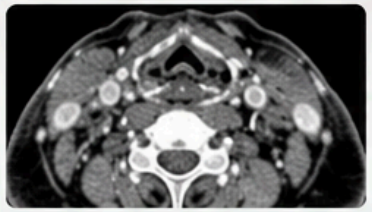
Key Takeaways

- Look for subtle retropharyngeal inflammatory changes on surveillance CT.
- Be vigilant in patients with recurrent disease and worsening dysphagia.
- Early recognition enables timely multidisciplinary intervention.
- May reduce morbidity and improve outcomes.

Small changes. Big implications.

Results

1 Initial Post-Treatment CT



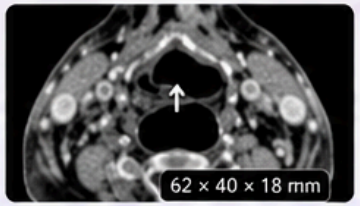
Marked reduction in tumour burden.

2 Early CT (Retrospective)



Subtle inflammatory changes with small fluid collections in the retropharyngeal space — early signs of evolving perforation (visible only in retrospect).

3 Later CT



Focal defect in posterior hypopharyngeal wall communicating with a 62 × 40 × 18 mm air-containing retropharyngeal cavity, consistent with contained perforation.

4 Clinical Correlation

Progressive dysphagia
→ Endoscopy: ulcerated, non-traversable stricture
→ Biopsy: recurrent moderately differentiated SCC

After 3 cycles of docetaxel
→ Worsening dysphagia with complete intolerance to oral intake.

Tumour response → **Early inflammatory changes** → **Contained perforation**

Serial CT documented the progression from early inflammatory change to established contained perforation, enabling accurate diagnosis and informing multidisciplinary management.

