

# Acute Suppurative Salmonella Thyroiditis Causing Acute Airway Compromise and Sepsis.

## A Case Report

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### History:

A 41-year old female with a background of glucose intolerance and rheumatoid arthritis presents to the Emergency Department with a 3 day history of acute neck swelling, fevers and progressive shortness of breath. When asked, she complained of not being able to comfortably lie flat.

A more detailed history revealed a recent gastrointestinal illness and progressively enlarging goitre over several years.

### On Examination:

The patient had a tachycardia and was febrile when seen. There was no audible stridor.

Oxygen saturation was within normal limits on humidified oxygen (FiO<sub>2</sub> 21%, 30l/min flow rate).

She had a large tender anterior neck swelling consistent with a goitre.

Flexible nasoendoscopy demonstrated a normal supra-glottic airway with no abnormality visualised in the immediate subglottic region.

### Initial Investigations and Management:

FBC: Hb 105, WCC 21.2

CRP: 41

Cross sectional Imaging (image one): Right thyroid superior pole abscess with extra glandular extension. Background large goitre with axial airway narrowing.

The patient was Resuscitated with fluid and started on empiric intravenous antibiotics and dexamethasone.

She was admitted under the otolaryngology service for close airway observation.

### Further Management:

Within 24 hours blood cultures grew *Salmonella Enteritidis*. The infectious disease team was consulted and antibiotics were rationalised to intravenous ceftriaxone for 48 hours and de-escalated to amoxicillin once sensitivities were obtained.

The patient underwent acute thyroidectomy. Operative findings were a large multi-nodular goitre and abscess cavity containing purulent material. Microbiology from operative specimens again grew *Salmonella*.

She improved in hospital and did not have any further complication.

### Discussion

The thyroid gland is rarely infected due to rich blood supply and lymphatic drainage. Abnormal anatomy (such as pyriform sinus fistulas) can predispose to infections<sup>1</sup>.

Review of the literature reveals a small number of reported cases of acute suppurative thyroiditis caused by salmonella bacteria<sup>1</sup>. *Salmonella* species often cause gastroenteritis in immunocompetent patients, but can cause invasive disease in the immunocompromised<sup>1</sup>.

Spread appears to be haematological in most cases with some cases associated with foreign body from the upper gastrointestinal tract (sharp food bolus).

Management of these cases involves the emergent consideration of any airway compromise, management of sepsis and infection and surgical drainage of the abscess<sup>2</sup>.

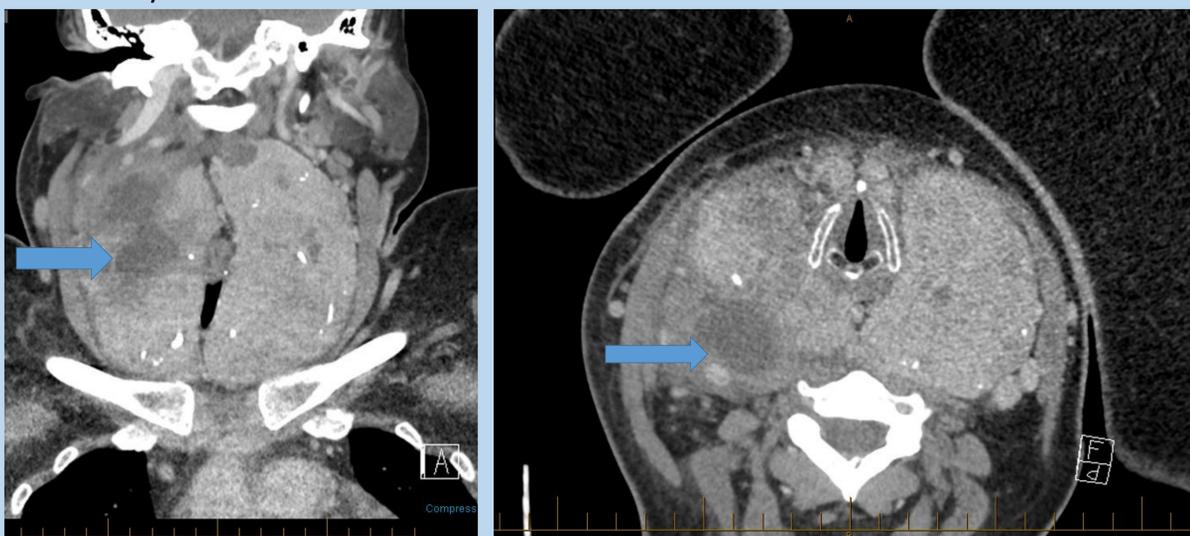


Image 1. Computerised Tomography: Right thyroid superior pole abscess (arrow) with extra glandular extension on the background of a large goitre

### References

1. AlYousef, M.K., Al-Sayed, A.A., Al Afif, A. *et al*. A pain in the neck: *Salmonella* spp. as an unusual cause of a thyroid abscess. A case report and review of the literature. *BMC Infect Dis* 20, 436 (2020).
2. Ghaemi N, Sayedi J, Bagheri S. Acute suppurative thyroiditis with thyroid abscess: a case report and review of the literature. *Iran J Otorhinolaryngol*. 2014;26(74):51-55.