

**ATROPINE FOR PSEUDOPTYALISM SECONDARY TO CHRONIC GERD
AND OESOPHAGEAL INFILTRATION FROM BREAST CARCINOMA – A CASE REPORT**

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Introduction

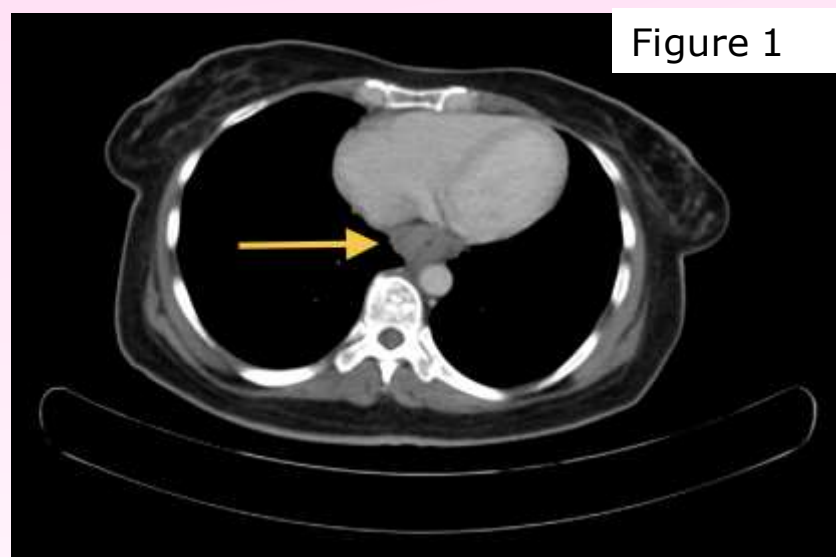
Pseudoptyalism is the inability to swallow due to excessive saliva production or retention. We report a patient with history of gastro-oesophageal reflux disease (GERD), who had severe dysphagia from added oesophageal infiltration from breast carcinoma. Rapid symptomatic relief was achieved with atropine and enhanced by chemotherapy.

Case report

A 49-year-old para 4 with Grade 6 dysphagia presented with persistent saliva spitting. She had GERD for 3 months and progressive dysphagia over six months, leading to severe weight loss (89 to 60 kg) and social withdrawal. She had a family history of cancer (maternal aunt with breast cancer at 36, brother with lymphoma at 40).

Oesophagogastroduodenoscopy (OGDS) revealed a tight stricture from the mid to lower oesophagus. Biopsies showed reflux changes in the upper oesophagus and mild gastritis. Multiple oesophageal dilatations provided minimal temporary relief.

Her mammogram was normal. Ultrasound showed an enlarged right intramammary and bilateral axillary lymph nodes. MRI noted a small benign right breast lesion. A PET scan suggested oesophageal infiltration and bilateral axillary lymphadenopathy with increased uptake in the mediastinal, hilar and axillary nodes. CT detected paraoesophageal and mediastinal lymph node enlargement but no extraluminal compression



CT showing paraoesophageal lymph node enlargement (arrowed)

An ultrasound-guided biopsy of the right axillary node showed malignant epithelial tumour cells positivity for CK AE1/AE3, CK7 and ER. A repeat ultrasound noted an indeterminate right breast lesion whereby a hook wire was inserted followed by breast conserving surgery and axillary dissection. Histopathology confirmed a 1 cm right breast invasive lobular carcinoma (grade I, ER 90% positive, PR negative, HER2 negative) with all 21 axillary nodes positive for metastases; pT1b, pN3a.

As her body mass index was only 18kg/m², adjuvant endocrine therapy was started. Persistent severe dysphagia was at that time alleviated by tds sublingual atropine 0.5%, prescribed at the surgical clinic. Due to the extensive nodal involvement, she was then given adjuvant chemotherapy. She was soon able to consume a liquid diet, thus atropine was discontinued. She received adjuvant radiotherapy to the breast and supraclavicular fossa and resumed tamoxifen.

A surveillance CT scan showed persistent oesophageal thickening and widespread skeletal metastases; Zoledronic acid was commenced. She later developed hoarseness and worsening dysphagia due to left vocal cord palsy but injection with Hyaluronic acid was unsuccessful. As she developed aspiration pneumonia, a percutaneous endoscopic gastrostomy tube was inserted.

Disease progression resulted in left pleural effusion, prompting chemotherapy and left pleurodesis. Four months later, she developed peritoneal metastases and intestinal obstruction leading to her deterioration and demise.

Discussion

Pseudoptyalism can be secondary to oesophageal strictures from GERD. In this patient, her dysphagia was complicated by the breast cancer that infiltrated the oesophagus. Her chronic GERD led to oesophageal inflammation, scarring and narrowing, manifesting as dysphagia, weight loss, anorexia, and vocal cord dysfunction^{1,2}.

This is the first reported use of sublingual atropine sulfate for pseudoptyalism associated with GERD complicated by oesophageal infiltration from breast carcinoma. Sublingual atropine, an anticholinergic reduces saliva production by inhibiting muscarinic receptors (M3) in salivary glands. Atropine is commonly used for pupil dilation and treating sialorrhea in children with disabilities³.

Conclusion

Managing ptyalism is difficult as the underlying causes are often irreversible. Treatment should focus on reducing saliva to manageable levels due to its physical and psychosocial impact. As quoted by the patient, "*the sublingual atropine provides immediate relief, it helps me to sleep and function normally in my daily activities as I do not have to spit so much.*"

References

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