

## REMOVAL OF IMPACTED DENTURES WITH POLYPECTOMY SNARE

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### ABSTRACT

Impacted dentures have attendant sequelae when not immediately retrieved. Early retrieval is advocated by use of endoscopy. Late presentation may be complicated by sepsis, necrosis and oesophageal obstruction with attendant repeated pulmonary aspiration and sepsis. We present the case of a 56year old man who had used partial dentures for over 7years. He had loose fitting dentures that got missing 7months prior to presentation. He was subsequently investigated for dysphagia and cough. Only at flexible oesophagoscopy was the dentures found and removed using only a polypectomy snare. Uneventful recovery followed.

### Introduction

Dentures may be inadvertently swallowed when loose fitting, when not routinely removed whilst sleeping or feeding.<sup>1</sup> Ingestion is also common in the elderly due to dementia and other neurological conditions.<sup>2</sup> Once ingested they may become impacted within the oesophagus or anywhere in the Gastro-Intestinal tract. Impaction within the oesophagus would result in mechanical obstruction with its attendant sequelae of repeated aspiration,

malnutrition from inadequate food intake, and locally may produce pressure necrosis and perforation with mediastinitis.<sup>1,2,3</sup>

Diagnosis is froth with difficulty in these patients especially when the history of ingestion of the dentures is denied or not volunteered. Most dentures are radiologically translucent, thus may be missed by routine chest x-rays.<sup>3,4</sup> In contrast studies dentures may be mistaken for tumours. Most dentures are commonly impacted at the cricoids which is the narrowest part of the oesophagus.<sup>3</sup>

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**KEY WORDS:** oesophagus, impacted partial dentures, flexible oesophagoscopy, polypectomy snare.

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Traditionally removal is with use of rigid oesophagoscopy and direct visualization.<sup>2</sup> A small percentage may require open surgical procedures when firmly impacted or when there are signs of perforation and mediastinitis or even following failure of endoscopic retrieval of the denture.<sup>5,6</sup> Removal by use of the flexible

oesophagoscope may require the use of retrieval baskets and sheaths to prevent shearing of the oesophageal mucosa.

We present a case of delayed diagnosis of swallowed dentures that was removed by flexible oesophagoscopy in the endoscopy suite.

### **Case Presentation**

The patient was a 56-year-old male man who had used partial dentures (incisor) for over 7 years. He had recently within a year changed his dentures due to discomfort and the new dentures were not tight fitting. He had inadvertently swallowed his dentures 7 months prior to presentation and was not sure if he had passed it via stools as he initially had little or no symptoms. He examined his stool for over a month and though could not retrieve the dentures he assumed that they had been passed out. 5 months later he observed he had developed Dysphagia to solids only and repeated regurgitation. Regurgitation was worse at night and associated with cough which was distressing. Cough was productive of brownish sputum, non-offensive or copious. History of fever was equivocal. He subsequently developed hoarseness of voice. There was no history of significant weight loss. There was history of some pharyngeal pain.

He took self medication at first and later had consultations with various physicians and was placed on various medications including antibiotics, anti-tussives, expectorants. He was subsequently seen at ISTH and had Cardiothoracic and Otolaryngeal consultations. He had indirect laryngoscopy which revealed suspected supraglottic growth. Further investigation with Barium swallow revealed a distal oesophageal stricture with proximal dilatation. He was then thought to have an oesophageal tumour.

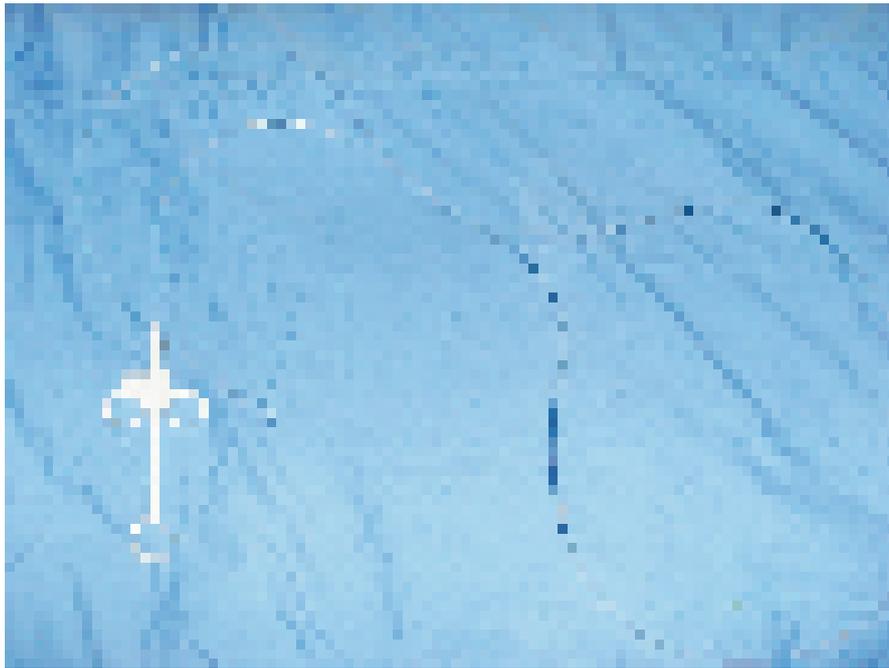
He was then referred to UBTH for oesophagoscopy for further evaluation. He was seen and evaluated and taken to the endoscopy suite for flexible oesophagoscopy.

At oesophagoscopy, the proximal dilatation with copious saliva and food debris was noted and with irrigation and insufflations the distal oesophageal stricture at 38cm was visualized. The area was found to be hyperaemic and friable. Further insufflations revealed the impacted denture. A polypectomy snare was then passed via the biopsy forceps tract and carefully placed to snare the dentures. It was then jagged free (moved in a zig-zag manner to free it) and then it was retrieved slowly under direct vision. There was some hold-up at the cricoid which was only bypassed by twisting maneuvers. A repeat oesophagoscopy immediately after retrieval did not reveal any perforation but showed an acquired shallow diverticulum at the site of impaction with erythema and friable tissue. The site was lavaged with saline and in the absence of perforation or tears the procedure completed.

Following retrieval there was no more dysphagia and the symptoms of cough and regurgitation reduced. He had a repeat oesophagoscopy a week later which was essentially normal. The plan was to follow up the patient to evaluate the evolution of the shallow diverticulum and prevent or treat any oesophageal stricture that may result. Patient has refused further investigations and treatment.

### **Discussion**

Impacted dentures leading to dysphagia invariably result in regurgitation. This causes chronic repeated aspiration leading to suppurative lung diseases.<sup>6</sup> Delayed presentation occurs in demented and



The Polypectomy snare



Figure I showing the barium swallow with the impacted denture in the distal oesophagus

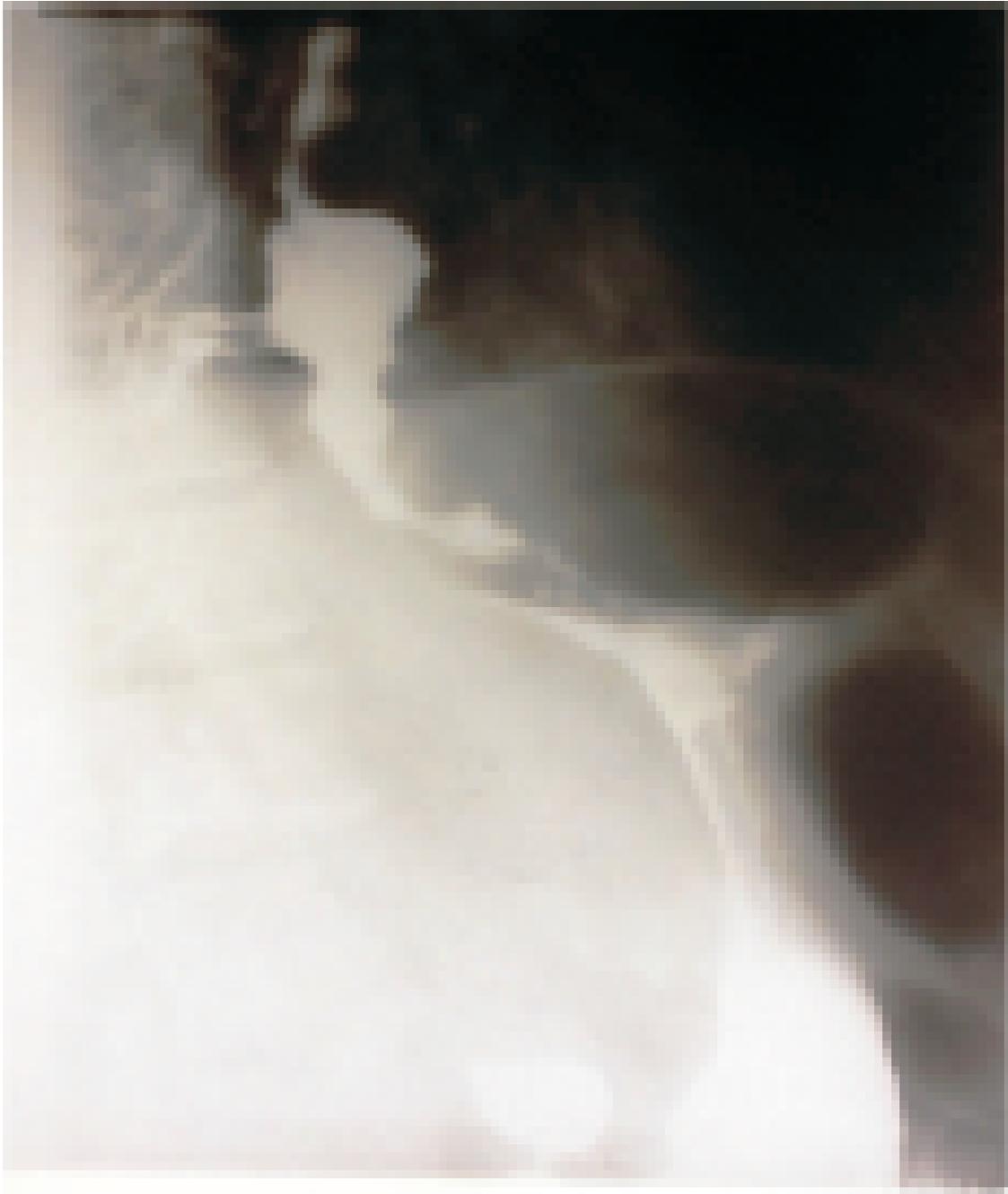


Figure II shows the irregular outline of the oesophago-gastric junction by the impacted denture

neurologic patients with poor memory.<sup>7</sup> These patients may assume they have lost the dentures rather than swallowed it. In the absence of history of swallowed denture, multiple investigations for other causes of the symptoms of dysphagia and repeated aspirations are done. Barium studies would in the face of a retained partial denture mimic mucosa irregularity reminiscent of oesophageal cancer.<sup>6</sup> This was not surprising in this patient and was a factor in the late definitive treatment.

Our patient had noticed that the denture was missing and checked his faeces for a month to ascertain if it passed down. He claimed he had no real symptoms of dysphagia.

Dentures made of acrylic material being radiolucent would not routinely show on plain x-rays, therefore repeated x-rays may not be adequate in monitoring these patients when the dentures are incarcerated.<sup>4,5</sup> Endoscopy should be routinely done for any patient with oesophageal obstruction. This would reveal the cause and enable other therapeutic measures including biopsies, foreign body retrievals, and or dilatation to be effected on the patients.<sup>4</sup>

This patient was referred for oesophagoscopy late, and it was at oesophagoscopy that the denture was visualized. In late presentation, retrieval may be associated with difficulties in the face of embedment within the oesophageal wall. There is also the increased susceptibility to oesophageal tear and/ or rupture from the ragged edges of the denture.<sup>5</sup> There may also be local suppuration which may not be adequately tackled by oesophagoscopy and open retrieval would be the choice however in the occasional case where at endoscopy the

denture is easily freed from its impaction, endoscopic retrieval should be attempted. The irregular jagged edges of the partial denture present a further problem to the endoscopist in pulling it all the way out.<sup>8</sup> In our patient, the denture was lodged at the distal third of the oesophagus. It would have appeared easier to dislodge it downwards to the stomach. This would have prevented oesophageal tears whilst pulling it upwards. However successful retrieval ensures no other surgery whereas downward displacement may necessitate laparotomy for retrieval from the stomach. Especially as dentures are not radiopaque and may be impossible to follow with repeat x-rays.<sup>4</sup>

Our patient's main morbidity was hoarseness of voice and chest infection. This was still evident 6 weeks after despite adequate antibiotic use. The residual diverticulum may account for this. Endoscopic retrieval of retained dentures present an easier less patient tasking means of treatment.

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