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A Large Solitary Squamous Papilloma of the Upper Oesophagus Causing Severe Dysphagia

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ABSTRACT

Squamous papilloma of the esophagus is a rare benign tumorand is usually identified as a solitary lesion of the lower esophagus. The etiology is controversial however chronic mucosal irritation and infections with human papilloma virus (HPV) are two proposed etiologies.A 69 year old female presented to the Ears, Nose and Throat department of the San Fernando General Hospital with a 2 year history of progressive dysphagia and significant weight loss.Barium swallows, MRI of neck as well as rigid oesophagoscopy revealed circumferential irregular thickening of the hypo pharynx and proximal oesophagus which is indeed a very rare finding in this location.The mass occupied more than half of the oesophageal lumen. Histology confirmed the diagnosis of a squamous papilloma of the oesophagus.An oesophageal stent was placed in the upper oesophagus which relieved the majority of the patient's symptoms.

Keywords- Squamous papilloma of oesophagus, severe dysphagia, squamous papillomatosis, HPV virus and squamous papilloma/carcinoma

1. INTRODUCTION

Benign neoplasms account for approximately twenty percent of oesophageal tumours [1]. One of the more uncommon entities in this group is the squamous papilloma. The incidence of this epithelial neoplasm ranges from 0.01 to 0.45%[2,3,4].The majority of cases occurin adults [6]. Papillomata are usually subcentimeter in size, solitary and occur mostly in the mid to lower oesophagus[7,10,11,12]. Almost all cases are asymptomatic and are found incidentally during upper gastrointestinal endoscopy or at autopsy[13,14,15]. Here,we present the case of an indotrinidadian female with a large, solitary upper oesophageal squamous papilloma. The size andlocation of the papillomacaused thepatient to experience severe dysphagia leading to poor nutritional intake and significant weight loss.

Case Report:

A 69 year old female presentedto the Ears, Nose andThroat department of the San Fernando General Hospital witha 2 year history of progressive dysphagia.She described difficulty inswallowing solidsmorethan liquids andalso complained of significant weight loss. There was no history of caustic substance ingestion, smoking, alcohol consumption, previous cancerorimmuno-compromisation. She had no family history of cancer. She was hypertensive and was non-compliant with her medications due to the dysphagia.

On general examination, the patient lookedemaciated with mucous membranes thatwerepaleand dry. There wasno palpablecervicallymphadenopathy. Flexiblelaryngoscopy revealedoedema of the arytenoids but showed no evidence of other abnormalities. Haematological investigations reportedahaemoglobinof9.72g/dl(MCV <80fl) and an ESR of 34mm/hr. Renal andliver functiontestswere normal. A retroviral test was negative. A barium swallow was ordered and this reported irregularity and thickening of them ucosa of the hypopharynx and proximal oesophagus from the fourth to the seventh cervical vertebrae. The rest of the image does ophagus was normal (figure 1).

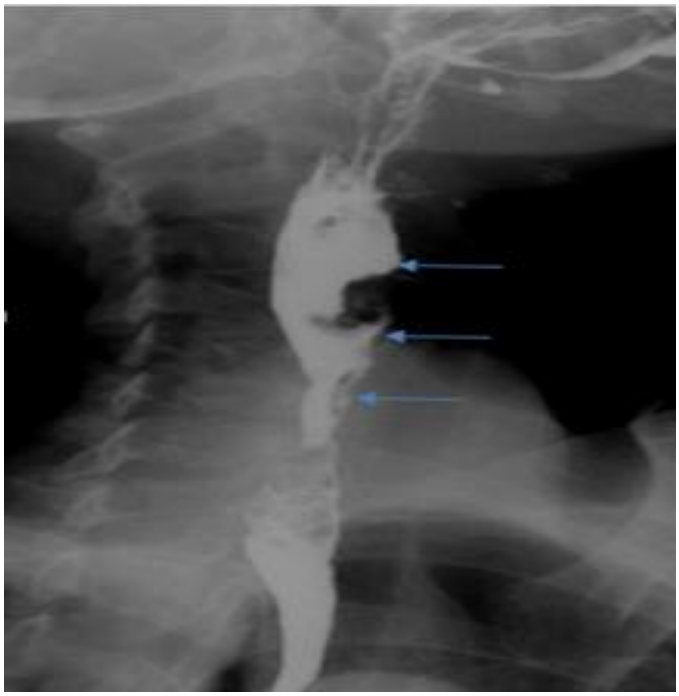

Figure 1: A barium swallow demonstrating irregularity and thickening of the mucosa of the hypopharynx and proximal oesophagus from C4 – C7 (blue arrows).

Direct laryngoscopy and rigid oesophagoscopywas attempted. The pharynx and larynx were normal but a pale white circumferential lesion was seen just below the upper oesophageal sphincter. This mass obstructed greater than 50% of the oesophagi allumen. The oesophagoscope could not be passed more than15cms from the upperincisors.Multiplebiopsiesofthemass weretaken.

The initial biopsy reported chronic inflammation of the sub-epithelial stroma which were features consistent with an inflammatory stricture. Arigid oesophagoscopy was repeated to get a secondbiopsy. During the second procedure, the oesophagoscope was able to pass over the oesophageal mass. This extended15 – 18cmsfrom the upper incisors andappeared pink but not friable. The second histology reported inflammatory tissue once again. The patient was then treated conservatively but continued to experience severe dysphagia.

Despite the histology from the first two biopsies being benign, a high suspicion for oesophageal cancer was maintained. A CT scan of the neck, chest and abdomen was ordered to determine the extent of the mass seen on endoscopy and reveal possible metastases. The CT scan reported a mass in the wall of the oesophagus at the level of C5- C7 partially occluding the lumen. There were no bonyerosions of the vertebrae and no obvious metastases. An MRI of the neck was then performed. The MRI reported a circumferential irregular thickening of the oesophaguswith a narrowed segment anterior to the sixth and seventh cervical vertebrae. This measured 0.7cm in thickness and 2.2 cm in length (figure 2).The patient subsequently refused further surgical intervention.

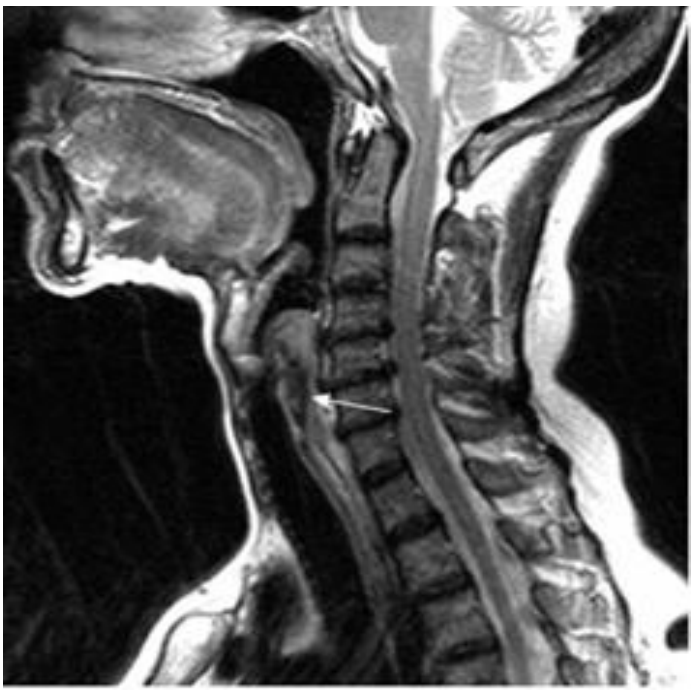

Figure 2: A T2 weighted MRI image of the neck (sagittal section) demonstrating the mass in the wall of the oesophagus (white arrow).

Over the next six months,the patient had intermittent relief of symptoms mixed with episodes of worsening dysphagia. Eventually, the dysphagia become so severe that afeeding jejunostomy had to be placed in order to assist with nutrition.Counselled repeatedly on the possibility of an underlying malignancy, the patient agreed to a third biopsy.The third histology reported a papillomatous proliferation of squamous epithelium along with moderate dysplasia of squamous cells. The underlying stroma was inflamed but showed no evidence of invasive carcinoma (figure 3A, 3B). A diagnosis of a squamous papilloma of

the upper oesophagus was finally made. There were no facilities for human papilloma virus testing at the hospital.

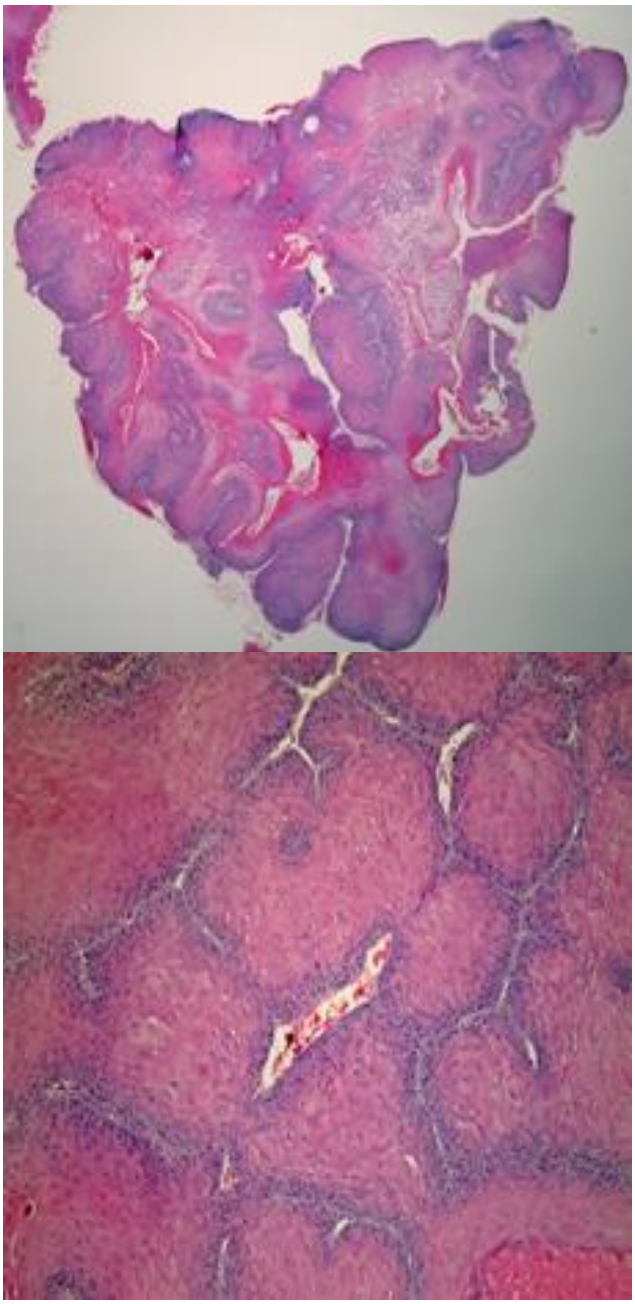

Figure 3: A biopsy of the oesophageal lesion stained with haematoxylin and eosin.
3A : Multiple papillae on a core of branching vascular stroma (x 2).
3B : Hyperplastic stratified squamous epithelium within lesion (x 10)

The diagnosis and treatment options were discussed with the patient and she chose to have an oesophageal stent placed. Her swallowing subsequently improved and the jejunostomy tubewas removed. Over the last two years, the patient has been seen biannually in the outpatient's clinic. She has mild dysphagia but is tolerating oral solids and liquids well. At present, she does not want any further surgical intervention.

2. DISCUSSION

The squamous papilloma is an uncommon benign epithelial neoplasm of the oesophagus[10]. It was first described fifty six yearsago byDr. R.Adlerand it still remains a rare entity with just over two hundred cases being reported in the literature[16,17].

Thecondition usually affects the older age groupwith most patients being in their fifties and sixties[6,18,19].Rare cases have been reported in children [15]. Small lesions that are less than five millimetres in sizemake up the bulk of cases [7] with few reports of larger lesions being reported [5,20]. Our patient had a rare large papilloma that was 2.2 x 0.7cm.

The majority of cases are asymptomatic[13,14] but the patient in this case report experienced severe dysphagia. The location of the papilloma just below the upper oesophageal sphincter, the circumferential nature and large size of the lesion accounted for the symptoms. Squamous papillomata occur most often as a single lesion. However, multiple lesions within the oesophagus can occur and when this happens the upper oesophagus is commonly affected [7,8,9].Oesophageal squamous papillomas however occurmorecommonly in the mid to lower oesophagus [6,10,11,12].

The pathogenesis of squamous papillomata remains unclear. Three theories have been proposed: chronic chemical injury, chronic mechanical injury and infectious etiology [3,21,22]. Chemical induction of oesophageal squamouspapillomata has been demonstrated in animal studies [23]. In humans, chronic chemical injury may occur fromirritation of the oesophageal mucosadue toreflux of stomach acid[4,7,9]. Gastroesophageal reflux and hiatal herniae have been shown to be associated with papillomata of the lower oesophagus [10].In Italy, as a consequence ofthe dietand possible increase in gastroesophageal reflux - the prevalence of squamous papilloma has been documented to be higher than in other populations[13,24,25].

Chronicexposure to mechanical injurymay also result in thedevelopmentof squamous papillomata. There has been a report of a papilloma developing after sclerotherapy for the endoscopic treatment of oesophageal varices[26]. Other examples of long term traumainclude irritationfrom the oesophageal placement of a self-expanding stent [21]and repeated bougienageasthe treatment for a benign stricture [27].

The human papilloma virus (HPV) is associated with the development of squamouspapillomata. In situ hybridization,

polymerase chain reaction, immunoperoxidase and immune fluorescence testing has confirmed the presence of this pathogen in resected or biopsied specimens[19,22,28,29].Genotypes 6 and 11are the subtypes most often identified[22,30,31]. HPV is more likely to be the etiology when papillomata occur in the upper oesophagus[30]. However, HPV is not identified in all cases of squamous papillomata [2,13,32,33,34]. Perhaps one of the reasonsfor this is the fact that there are more than sixty subtypes of HPV and tests to determine the presence of all subtypes are not routinely done [13,35,36,37]. Reynoso et al also proposed that some cases may have had concentrations of HPV that were too lowto be detected [38].

There is a definite causal relationship between HPV and cervical squamous cancer [39] but significant controversy exists regarding the development of oesophageal squamous cancer from squamous papillomata.In 2000, Shen et al demonstrated the malignant transformation of epithelial cells from the mucosa of the oesophagus in vivo [40]. There have since been a few reports of cancer developing from particularly large or multiple papillomata [41,42,43,44,45]. However, other studieshave not detected the presence of HPV in oesophageal squamous cancerspecimens [46,48]. Due to thislack of reproducibleevidence, the general consensus atthis time is that squamous papillomata of the oesophagus does not progressto cancer [16,49].

No guidelines exist for the management of squamous papilloma due to its rarity. Most patients who are asymptomaticcan bemanaged conservatively with simple follow up in a clinic. Patients with larger or multiple papillomata may benefit more from annual upper gastrointestinal endoscopy to observe for regression or progression of lesions [10]. Completeendoscopic removal ofsmallpapillomata can beperformed [49]. Van Cutsemet al 1995 had achieved regression in a case of HPV positive oesophageal squamous papilloma that failed treatment with laser and interferon treatment by giving repeated intra-tumoral injections with S-1-3-hydroxy-2-phosphonyl-methoxypropyl cytosine (HPMPC)[50]. Endoscopic ablation of lesions using radiofrequency was recently performed withcomplete ablation confirmed at threemonths by endoscopy with biopsies[51].The use of the Nd-Yaglaser and alpha-interferon treatment have had limited success [52].

In this case report, the patient was very symptomatic and simple follow up was not adequate. As a result of limited treatmentoptions at the San Fernando General Hospital, the placement ofa stent in the upper third of the oesophagus was performed. Migration of the stent has not occurred to date andthe patient's swallowing has improved significantly. She has been followed up for the past 2 years in the outpatient's clinic and has had no further complaints.

3. CONCLUSION

Squamous papillomata of the oesophagus are usually asymptomatic lesions. However due tothe large size, circumferential nature and location immediately below the upper oesophageal sphincter, the patient in this report experienced symptoms of severe dysphagia for two years.A single lesion, 0.7 x 2.2cm in size was present in the wall of the upper oesophagus. Most of the reported cases are subcentimeter lesions and this case is one of the few reports of a large squamous papilloma in the oesophagus. This case is even more unusual as the papilloma was present in the upper oesophagus while most papillomata are found in the mid to lower oesophagus.

The need for multiple biopsies before histological confirmation of the squamous papilloma delayed the treatment of the patient.However, the placement of an oesophageal stentwas successful in alleviating most of the symptoms and returning the patient to a functionalstateathome.

Patient consent: Has been obtained for publication of this case report

Disclosure: The authors have nothing to disclose.

Conflicts of interest: The authors have no conflict of interest among themselves in publishing this case report

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