

Aorto-Oesophageal Fistula in Patient With Montgomery Salivary Bypass Tube

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Aorto-oesophageal fistula is a well-reported pathology with several known causes. The co-existence of this pathology associated with the use of a Montgomery salivary bypass tube (MSBT) is exceptional and only 1 case is described in the literature. We present here a case report about an 81-year-old patient with an MSBT who died because of massive upper gastrointestinal bleeding caused by an aorto-oesophageal fistula at the site of the MSBT. The literature on this pathology will also be reviewed.

Key words: Aorto-oesophageal fistula. Montgomery salivary bypass tube. Pharyngocutaneous fistula.

Fístula aortoesofágica en paciente con tubo de derivación salival de Montgomery

Las fístulas aortoesofágicas son afecciones sobradamente descritas y con múltiples etiologías. No obstante, es excepcional que se presenten por la utilización del tubo de derivación salival de Montgomery (TBSM), algo descrito en la literatura médica en una sola ocasión. Presentamos el caso clínico correspondiente a un paciente de 81 años que portaba un TBSM y falleció por una hemorragia masiva del tracto digestivo superior causada por una fístula aortoesofágica en la localización del TBSM. Se revisa la literatura sobre este tema.

Palabras clave: Fístula aortoesofágica. Tubo de derivación salival de Montgomery. Fístula faringocutánea.

Patient, 81 years of age, whose most relevant previous history was having been a heavy smoker, with chronic renal insufficiency, and having suffered an upper digestive haemorrhage 2 years previously and a myocardial infarction 5 years earlier. He arrived at the consult for dysphonia lasting for 5 months.

In the laryngoscopy, a tumour was noticed that affected the right vocal cord with infiltration of the anterior commissure, descending through the anterior subglottis, conserving bilateral cordal mobility. Using diagnostic imaging, infiltration of the thyroid was observed with permeation of the cricothyroid membrane. After confirming the tumour by a biopsy, a T_{4a} N₀ M₀ epidermoid laryngeal carcinoma was diagnosed (stage IV), and the first therapeutic option proposed was a total laryngectomy, which was not accepted. Due to his refusal, based on speech loss as well as the permanent tracheostomy, transoral laser surgery was offered for macroscopic extirpation without guarantee of

obtaining negative margins, and later radiotherapy at curative doses.

Three months after finalizing radiotherapy, a mass was observed in the anterior sub-glottis in a routine follow-up, together with cordal hypomobility but without detection of laterocervical adenopathy.

In the light of this finding, a computerized tomography was requested, in which a tumour was seen to affect the anterior commissure, with signs of infiltration of both vocal cords and descending towards the sub-glottal region with partial infiltration of the cricothyroid membrane.

On the basis of this information, the patient was updated on the status of his condition and a total laryngectomy was again proposed and in this case was accepted, conditional on prior radiotherapy.

The surgery was performed without perioperative complications, but with the postoperative complication of a pharyngocutaneous fistula appearing 14 days after surgery. A compression bandage was once more put in place and feeding by nasogastric tube was continued to attempt to achieve closure of the fistula.

Given that the closure of the pharyngocutaneous fistula was not achieved after 3 weeks had elapsed and the same flow of saliva continued, it was decided to place a Montgomery salivary bypass tube (MSBT) to aid closure.

Two weeks after the placement of the MSBT, the patient presented a sudden and massive haemorrhage in the neck,

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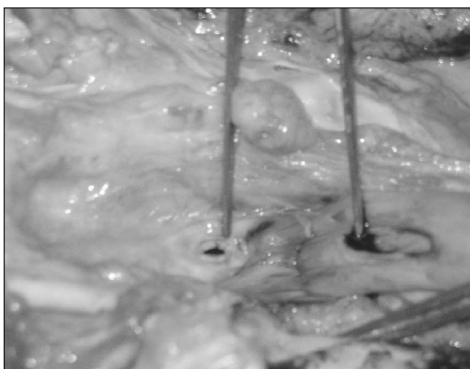
Figure 1.

Location of the oesophageal perforation at the distal end of the Montgomery salivary bypass tube.



Figure 2.

Correspondence between the oesophageal perforation and the aortic perforation.



through the pharyngocutaneous fistula, as well as through the mouth, and passed away during transfer to the operating room.

The autopsy showed that the MSBT had produced a decubitus contact on the posterior oesophageal wall at the height of the aortic arch, giving rise to an aorto-oesophageal fistula that caused the massive haemorrhage (Figures 1 and 2).

DISCUSSION

Aorto-oesophageal fistulae are well-known entities that can have multiple causes. The most common are: congenital anomalies, swallowing foreign bodies, trauma, oesophageal surgery, as well as iatrogenic causes during oesophagoscopy, and prolonged use of nasogastric tubes.¹

The MSBT tube is a technical resource that is used in patients presenting a pharyngocutaneous fistula after total laryngectomy or pharyngolaryngectomy, as well as the alleviation of oesophageal tumours, tracheo-oesophageal fistulae, and stenosis of the hypopharynx, or cervical oesophagus, whatever the origin.^{2,3}

The MSBT insertion technique was originally performed under general anaesthetic,⁴⁻⁶ although other insertion techniques have been developed for tube insertion with a local anaesthetic.³

There are scant reports on complications with the use of the MSBT⁷ and only 1 case was found in the literature involving an aorto-oesophageal fistula with the use of MSBT in a patient, in that case a 2 year-old girl.¹

The presence of a pharyngocutaneous fistula in a laryngectomized patient is one of the most common indications of MSBT.^{2,3} The favourable effects of the use of this tube in terms of the time to resolve the process have been well described, whether used in isolated or together with free or myocutaneous flaps for the reconstruction of the gap left by surgery in laryngectomies or pharyngolaryngectomies.⁷

In addition, there are studies that analyze the cost/benefit relationship in patients in which MSBT was used, as well as the reduction in severity of the complications after this kind of surgery.⁸

The possible complications related to the insertion of an MSBT may be: the development of tracheo-oesophageal fistulae, migration, or extrusion of the tube, reaction to a foreign body, or a vascular pedicle condition when the use of MSBT is combined with reconstruction using a free flap or the pectoralis major.^{7,9}

As already mentioned, only 1 case was described in the literature involving an aorto-oesophageal fistula related to the use of MSBT. As in that case, we thought the aetiology of the process was the necrosis produced by the decubitus contact of the tube on the oesophageal wall, and aortic arteriosclerosis, and the action of previous radiotherapy on the wall of the oesophagus may also have been influential (given that the recurrent chains were included in the field), although in our case, unlike the other one mentioned, there were apparently no known related conditions.¹

The decubitus mechanism as the cause of aorto-oesophageal fistulae has already been described, specifically with the prolonged use of nasogastric tubes.^{10,11}

We conclude from the presentation of this case that the onset of an aorto-oesophageal fistula may occur in patients requiring the use of MSBT and this must be taken into account for its indication, above all in elderly patients subjected to previous radiotherapy.

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