Paraganglioma of the distal trachea: an unusual surgical entity

Introduction

Paraganglioma are rare neuroendocrine tumors arising from neural crest derived chromaffin tissue and may be rarely located in the membranous part of the trachea. Complete surgical resection remains the standard of care due to the risk of malignant degeneration and poor response to chemotherapy or radiation. We report the case of an occlusive paraganglioma located in the distal part of the trachea managed by non-circumferential airway resection followed by latissimus dorsi muscle flap repair.

Case report

A 52-year-old man was referred with a 4 months history of progressive cough, dyspnea and stridor. CT and PET-CT showed an endoluminal well-vascularized mass of 2x2cm with a high FDG uptake, emerging from the membranous part of the lower trachea with extension in the two main bronchi (Fig 1). Due to carinal sub-occlusion and a high risk of bleeding, upfront surgical resection was performed. General anesthesia was performed using endotracheal intubation. Right-sided femoro-femoral veno-arterial ECMO was installed followed by a right posterolateral thoracotomy after harvesting a pedicled latissimus dorsi flap. The trachea and carina were dissected and a posterior non-circumferential tracheo-carinal resection was performed resulting in a membranous airway defect of 4x4cm extending in the two main bronchi. Intraoperative frozen section examination confirmed negative surgical margins. The airway defect was closed by use of an intrathoracically transposed pedicled latissimus dorsi flap. Intraoperative bronchoscopy showed no dehiscence or endoluminal protrusion of the muscle patch. The histological examination confirmed a completely resected paraganglioma. The patient recovered uneventfully and was discharged on postoperative day 12. Control bronchoscopy at 6 weeks showed a complete healing of the airway without stenosis or muscle flap protrusion (Fig 2).

Conclusion

Paraganglioma should be included in the differential diagnosis of an intrathoracic membranous tracheal mass. Upfront non-circumferential surgical resection may be indicated and airway reconstruction can be performed using a latissimus dorsi flap.

References