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Resection of a Mediastinal paraganglioma: Why all the fuss?

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Objective: Mediastinal paragangliomas are rare and account for 0.3% of mediastinal tumours[1,2] 15-35% of paragangliomas undergo malignant transformation and are resistant to chemotherapy and radiotherapy[2] Surgical resection is the gold standard treatment however it can be challenging as these tumours are highly vascular and can claim an intimate relationship with the great vessels, heart, trachea and oesophagus.[1,2,3] Surgery for mediastinal paragangliomas is usually performed via a median sternotomy +/- cardiopulmonary bypass.[1,3] We present a case demonstrating resection of a mediastinal paraganglioma via a left-sided posterolateral thoracotomy.

Methods: A 53 year old woman was incidentally found to have a mediastinal paraganglioma during investigation of anaemia. Positron emission tomograghy-computed tomography (PET-CT) demonstrated a Flurodeoxyglucose (FDG) avid 4.5 x 4.0 cm left-sided mediastinal mass adjacent to the aortic arch and left pulmonary artery (Figure 1). A CT-guided biopsy favoured a paraganglioma.

Results: Following a left-sided posterolateral thoracotomy, a large extensively vascular mass abutting the aortic arch and proximal left pulmonary artery with extension into the aortic-pulmonary window was evident. The mass was dissected free from the phrenic and vagus nerves, which were both preserved. The RLN was never identified and assumed sacrified as the mass was dissected off the underside of the aortic arch. On post-operative day 2, vocal cord medialisation was performed due to an expected vocal cord palsy. Histopathology revealed a 38mm Paraganglioma with direct invasion of station 5 lymph node and an R0 resection. The patient is under assessment for succinate dehydrogenase subunits B (SDHB) genetic mutation, which if positive would indicate familial paraganglioma syndrome type 4 (PGL-4).3 Due to the potential for late recurrence, the patient has entered long term surveillance.

Conclusions: Paragangliomas are rare mediastinal tumours that can be locally aggressive with the potential for malignant transformation. In select cases, surgical resection can be safely undertaken via a left-sided posterolateral thoracotomy..

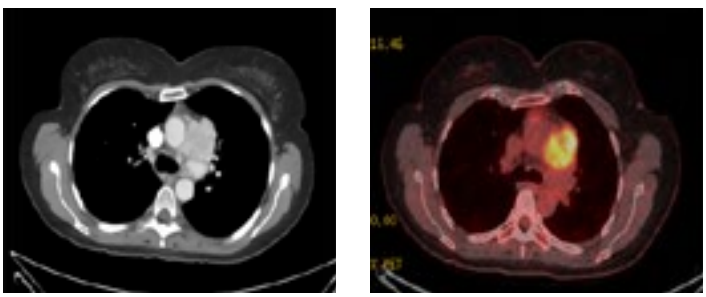

Figure 1: PET-CT demonstrating a left-sided mediastinal mass densely adherent to the aortic arch and left pulmonary artery

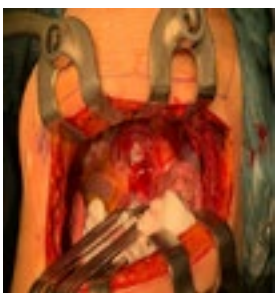

Figure 2: Intra-operative picture of the 38mm mediastinal paraganglioma prior to resection

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Biography

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