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Esophageal Cancer Associated with a Right Aortic Arch

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Case Blog

A 52-year-old woman presented at our department for progressive dysphagia for almost 1 year, with food vomiting. An esophagoscopy showed a polypoidal mass, 25 cm from the incisors, in the middle third of the esophagus. Biopsy confirmed the presence of a squamous cell carcinoma shown in **Figure 1**.

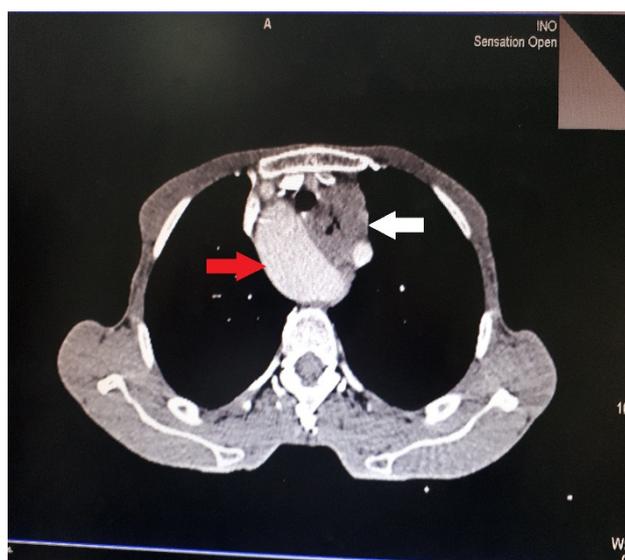


Figure 1 Panel A: A CT scan (axial plane) of the chest showing a right aortic arch (red arrow) and an esophageal cancer (white arrow).

Computed tomography showed an ulcerative tumor in the esophageal wall, measuring 50 mm × 23 mm × 73 mm, 8 cm from the cardia with intimate contact with the trachea, the keel and the left pulmonary artery (Panel A) shown in **Figure 2**.



Figure 2 Panel B: Computed tomography (coronal plane) revealing a right aortic arch (white arrow).

CT revealed also a right aortic arch, classified as an aortic anomaly of type III-A: A mirror image branching of the normal left aortic arch, according to Edward's classification (Panel B). Type IIIB is the most frequent, followed by Type IIIA. The classification of aortic anomalies by Edward's et al. is based on their theoretical concept of the development of the aortic arch. Right aortic arch is a rare condition, this congenital vascular anomaly is thought to occur in approximately ~0.1% (Range 0.05% to 0.2%) of the population, and it is reported to represent from 1% to 2% of congenital diseases of the heart and aorta. In patients with a right aortic arch, the aorta surrounds the esophagus and trachea, causing the compression and deviation of these structures, as well as deviation of the recurrent laryngeal nerve. This is why great

care must be taken when the surgical option is decided. The main symptom of right aortic arch is dysphagia, due to compression of the esophagus by the vascular ring created by the arch. In our case, dysphagia was not noted prior to the development of the cancer. Esophageal cancer associated with right aortic arch is very rare, only few cases have been cited in the literature; the squamous carcinoma cell is the most common type. The surgical resection in this rare combination is very rare, but some cases have been reported in the literature. A right thoracotomy is the most common approach

for the resection of the esophageal cancer, but in the presence of a right aortic arch, we prefer a left thoracotomy. The mean age was 62 years.

After multidisciplinary board meeting, she benefited from a jejunotomy tube. An exclusive chemoradiation was provided, but given the alteration of the general state, important weight loss (10 Kg in 3 months, her actual weight is 35 kg), and tumor progression, a palliative radiation was decided (30 Gy, 3Gy per fraction).