An Unusual Primary Tumour of the Trachea (Chemodectoma)

W.A.

Horrée

From the department of Otorhinolaryngology, University of Amsterdam, Wilhelminagasthuis (Head: Prof. L. B. W. Jongkees)

Author's address: Dr.W. A. Horrée, Van Eeghenstraat 167, Amsterdam, (Netherlands)

Primary tumours of the trachea may be considered as such rare localisations of both malign and benign new formations that the addition "unusual" seems absolutely out of place. Since, however, I could not find any literature about an analogous tracheal tumour (such as the one described below), the title "unusual primary tumour" appears to be justified.

A motor fitter, 56 years of age, who had been completely healthy till one year previously, complained of shortness of breath on exertion. No internal cause of these complaints could be found. Since the complaints increased, and a distinct inspiratory stridor developed, X-ray examination was performed. Just above the upper chest aperture a globular stenosis of the trachea was seen. Clinical tracheoscopy followed. A broad-stemmed smooth tumour obstructed the lumen of the trachea dorsally for about two-thirds. The not imaginary danger of almost uncontrollable bleedings on biopsy, made a very low tracheotomy necessary, in such a way that the canule could be brought into the trachea just below the tumour. At the same time, after the cleaving of some tracheal rings, the tumour could be brought à vue. The biopsy indeed caused a strong bleeding from the submucously extending tumour, this bleeding was stopped by diathermic coagulation. The histological diagnosis was: chemodectoma, conformable to a tumour of the glomus caroticum.

These tumours are known as lateral neck tumours, originating from the glomus caroticum, situated in the fork of the common carotid artery, at the bifurcation of the internal and external carotid artery. Similar bodies to the glomus caroticum are described in other places: the paraganglion aorticum (glomus aorticum), the glomus jugulare, a group of cells associated with the ganglion nod-

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osum of the vagus nerve, and, described by Gosses in monkeys, cells with a similar structure situated near the ganglion ciliare in the orbita. The glomus coccygeum, glomus cutunaum and certain tumours of the peritoneum and the retroperitoneal space have another structure, they are known as arteriovenous anastomoses. The function of this tissue, especially that of the glomus caroticum, is known especially by the work of Heymans in this domain. It is now accepted that the bodies act as chemoreceptors, susceptible to changes in the Ph and CO₂/O₂-tension of the circulating blood. It has not been demonstrated that they produce epinephrine, which should make them comparable to the tissue of the adrenal glands. Tumours of the glomus caroticum manifest themselves in the neck as a gradually increasing non-painful swelling. Although the growth is very slow, metastases (regionally or elsewhere) are seldom seen, and the infiltrative

growth cannot always be demonstrated microscopically, yet these tumours must be considered as malign ones.

The localisation of the tumour in our patient necessitated an operation. The high grade of differentiation makes radiosensitivity of these tumours very small; at best the growth may be (somewhat) retarded. Radical operation is the sole curative therapy. After discussion and in co-operation with Dr. Wieberdink (surgeon) and Dr. Piers (plastic surgeon) an operation was performed. Via a tracheofissure and cricotomy the tumour came à vue and could be totally removed, without serious bleeding. The backwall of the trachea was absent for a distance of about 3 cm. In this defect the muscularis of the oesophagus lay bare. In order to limit the possibility of post-operative stenosis of the trachea, the defect was closed with a free skin transplant.

The postoperative course was uneventful. The decanulation did not give any difficulties. On tracheoscopy, performed some weeks later, no recidivism of the tumour was seen. The passage of the trachea was easy, the transplant had fastened itself well. Six weeks after the operation the patient had completely resumed his work.

After inspection of the removed growth the anatomical pathologist maintained his original diagnosis: chemodectoma; the clinical picture justified the addition "primary" chemodectoma.