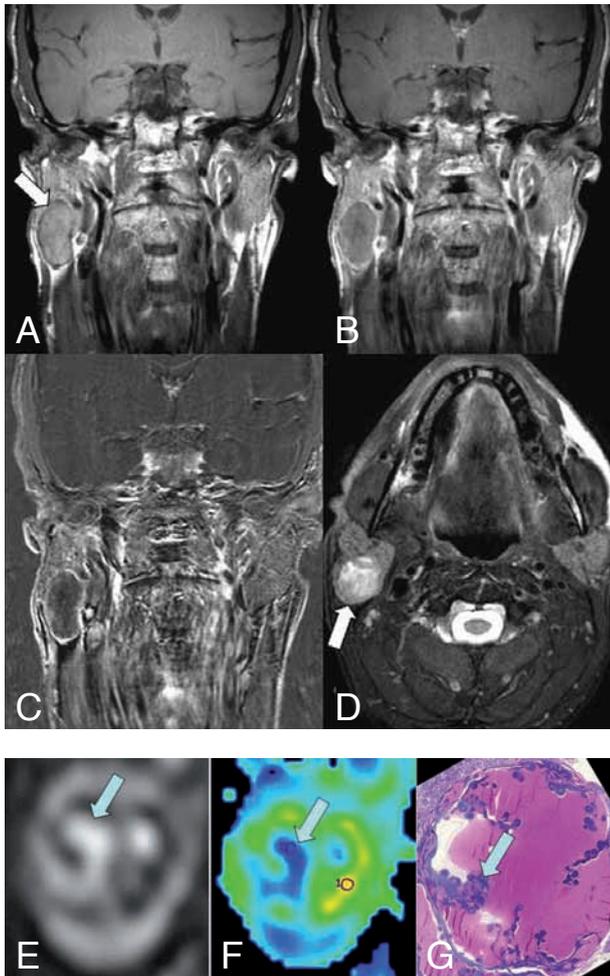


## IMAGES IN CLINICAL RADIOLOGY WITH PATHOLOGICAL CORRELATION



### *Suggestive MR features of Whartin's tumor with correlation between diffusion-weighted imaging and pathology*

I.B. Aremu<sup>1</sup>, Ph. Grandjean<sup>2</sup>, M. Hamoir<sup>3</sup>, B. Weynand<sup>4</sup>, Th. Duprez<sup>2</sup>

A 54-year-old man without medical history presented with a right-sided tumor of the parotid gland. The consistency of the mass was soft. The patient was asymptomatic except for the self-palpation of the process. He had unremarkable clinical examination including neck nodal areas. The 'conventional' MRI examination gave significant clues for the diagnosis (Fig. A). The neoplasm displayed elevated signal intensity on unenhanced T1-weighted images (A) suggesting a colloid content and enhanced only slightly after paramagnetic contrast agent (CA) perfusion (B), which is a valuable criterion to distinguish it from other common benign (pleiomorphic adenoma) and malignant (carcinomas) neoplasms of the parotid gland which usually exhibit strong heterogeneous enhancement. Low contrast-enhancement was confirmed by subtracting pre- and post-contrast T1-weighted images (C).

The T2-weighted images displayed a mosaic of hypo/hyperintense sub-areas within the tumor which suggested coexistence of hydrated colloid areas and dense tissue made of tightly packed cells with high nucleocytoplasmic ratio. A worthy "histological-like" feature was given on diffusion-weighted images (Fig. E-G) which demonstrated alternating areas of very bright and very low signal intensity on DW trace images (E) corresponding to drastically decreased ADC values for the former and very increased ones for the latter (F). This constellation of features strongly suggested the diagnosis of cystadenolymphoma (Whartin's tumor) which was confirmed by histopathological examination after surgical removal (G). Striking parallelism was observed between DW images (E,F) and histopathological aspect (G) with interleaving of hyperintense areas with decreased ADC values corresponding to tumoral 'curls', and hypointense areas with increased ADC values corresponding to colloid content. MRI therefore allows confident diagnosis of Whartin's tumor which is clinically relevant because this tumor is almost the only neoplastic salivary disorder for which surgery can be suspended in tumors of limited size, in the absence of patient's complaints, and in patients at risk for general anaesthesia.

1. Department of Medical Imaging, University of Ilorin, College of Health Sciences, Ilorin, Kwara State, Nigeria, 2. Department of medical Imaging, Université Catholique de Louvain, 3. Department of Head and Neck Surgery, Cancer Centre Cliniques Universitaires Saint-Luc, Brussels Belgium, 4. Department of Pathology, Université Catholique de Louvain, Cliniques Universitaires de Mont-Godinne, Yvoir, Belgium.