



Brain Metastatic Disease in a Patient with Tall Cell Thyroid Carcinoma

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Introduction

- **Papillary thyroid carcinoma is a disease associated with a very good prognosis**
- **However, there are some subtypes of papillary thyroid cancer which are associated with aggressive biological behavior and worse outcome**
- **The appearance of brain metastatic disease in the course of papillary thyroid carcinoma is rare and carries an unfavorable prognosis**



Aim

- **The aim was to describe the case of a patient with tall cell papillary thyroid carcinoma who presented with brain metastatic disease**



Methods

- **A patient, male, aged 63 years, presented with a large mass in the area of the thyroid causing dysphagia**
- **Initial evaluation with thyroid hormone measurement and a fine needle aspiration biopsy revealed the presence of malignancy**
- **Near total thyroidectomy was performed**



Results

- **On histology a large tumor measuring 7.0x7.0x5.0 cm and weighing 122 g was examined**
- **The tumor was multilobular, scleroelastic and had a small area of fibrosis and an area of cystic degeneration**
- **The neoplasm was a tall cell papillary thyroid carcinoma which had foci of dedifferentiation**
- **Within the area of low differentiation atypical mitoses were observed with a Ki67 index of approximately 10%**
- **The tumor was positive to p53 in 50% of the cells**
- **Extrathyroidal extension was observed**
- **After near total thyroidectomy therapeutic radiodine was administered**
- **Approximately a year later the patient presented with brain metastases**



Conclusions

- **Brain metastatic disease from thyroid cancer is rare and carries a bad prognosis**
- **Some subtypes of papillary thyroid cancer, such as the tall cell variant have an increased propensity to develop metastatic disease, including brain metastatic disease**
- **In conclusion, the case of a patient with a tall cell thyroid carcinoma with areas of low differentiation is presented who developed early brain metastatic disease**



References

- **Tahmasebi FC, Farmer P, Powell SZ, Aldape KD, Fuller GN, Patel S, Hollis P, Chalif D, Eisenberg MB, Li JY. Brain metastases from papillary thyroid carcinomas. Virchows Arch 2013;462:473-80**