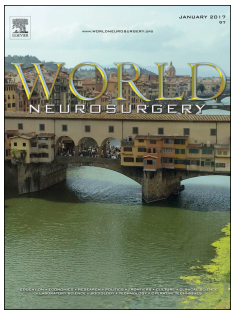
Accepted Manuscript



A Long Term Follow Up After Radiosurgery Of Papillary Tumour Of The Pineal Region (Ptpr): Two Cases Report And Review Of The Literature

Cecilia Fernández-Mateos, Roberto Martinez, Jesús Vaquero

PII: S1878-8750(18)31033-7

DOI: 10.1016/j.wneu.2018.05.080

Reference: WNEU 8141

To appear in: *World Neurosurgery*

Received Date: 4 December 2017

Revised Date: 10 May 2018

Accepted Date: 11 May 2018

Please cite this article as: Fernández-Mateos C, Martinez R, Vaquero J, A Long Term Follow Up After Radiosurgery Of Papillary Tumour Of The Pineal Region (Ptpr): Two Cases Report And Review Of The Literature, *World Neurosurgery* (2018), doi: 10.1016/j.wneu.2018.05.080.

A LONG TERM FOLLOW UP AFTER RADIOSURGERY OF PAPILLARY TUMOUR OF THE PINEAL REGION (PTPR): TWO CASES REPORT AND REVIEW OF THE LITERATURE

Cecilia Fernández-Mateos *, Roberto Martinez **, Jesús Vaquero *

*Department of Neurosurgery. Hospital Universitario Puerta de Hierro-Majadahonda. Madrid.
**GammaKnife Radiosurgery Unit. Hospital Ruber Internacional. Madrid.

ABSTRACT
Tumours of the pineal region are rare in adulthood, accounting for approximately 1% of intracranial neoplasms in this age range. Because of their rarity, it has proven to be difficult to establish the optimal therapy. Furthermore, microsurgical total resection in this eloquent location is associated with not low rates of morbidity.
We described two patients diagnosed of papillary tumours of the pineal region (PTPR) by stereotactic biopsy and referred for gamma knife radiosurgery after shunting for hydrocephalus. We are reporting a long-term follow up of 15 and 20 years respectively, showing a good response to the treatment.

KEYWORDS: Gammaknife radiosurgery; papillary tumour of pineal region;

INTRODUCTION

Papillary tumours of the central nervous system are rare and have been documented in the pineal region on few occasions. In 1990 Vaquero et al. published a case report about a papillary pineocytoma.[1] The first six cases of papillary tumours of the pineal gland (PTPR) were described by Jouvet et al. in 2003. [2] In 2007, PTPR was included by the World Health Organization as a distinct entity in their new classification of central nervous system tumours. [3] Since then, only a few cases had been published. [4,5,6,7,8,9]
We describe two cases treated with stereotactic radiosurgery after establishing the diagnosis by surgery. To our knowledge these are the first cases reported with a long-term follow up during 15 and 20 years after treatment.

REPORT OF CASES

The first case is a 27 year-old caucasian man presented with a six-month history of increasing headaches, diplopia, dizziness and drowsiness in 2002. On neurologic examination, he did not have any focal deficits. Magnetic Resonance Imaging (MRI) revealed a primary pineal tumour with obstructive hydrocephalus. A stereotactic biopsy and a ventriculo-peritoneal shunt were done for the patient. The histology and inmunohistochemical findings support the diagnosis of a PTPR (Figure 1).

The patient was referred for Gamma Knife radiosurgery. The lesion was covered by performing 8 shots. The maximum dose was 20 Gy, with a coverage dose of 10 Gy in 50% isodose. The volume of tissue included within the coverage isodosis resulted 13 c.c. The organ at risk considered included: Both superior colliculus that received a dose lower than 6 Gy; both inferior colliculus received a dose lower than 5 Gy; brainstem received a dose lower than 4 Gy and finally both internal capsules received less than 5 Gy. The procedure resulted uneventful.