

## Introduction

Papillary tumor of the pineal region (PTPR) clinical course and biological behavior are still under investigation. The optimal therapeutic approach is yet to be defined. We performed a comprehensive patient-level meta-analysis with all PTPR cases reported thus far to elucidate clinical and treatment features regarding this tumor and identify prognostic factors.

## Methods

A WebOfSciences, Medline and EMBASE search for case series / reports on PTPR (January/2003-June/2017) was performed. Only PTPR cases with individual-level data were included. Data addressing PTPR's clinical presentation, imaging, treatment and histological features were registered and factors associated with the primary outcome of 36-month survival were identified through Cox regression models.

## Results

Initial search yielded 1054 results, of which 154 remained after screening for relevance. A total 71 studies were included, 60 case reports and 11 case series comprising 175 patients (mean age  $33.4 \pm 15.4$  years, 53.2% male). Headache was the most frequent symptom (82.9%) and 88.6% presented with hydrocephalus. Mean tumor size and volume were  $2.9 \pm 1.0$ cm and  $8.3 \pm 7.1$ cm<sup>3</sup>. Surgery was performed on 82.0% and gross total resection (GTR) was achieved on 71.4%. The Glasgow outcome scale was available on 76 cases and its median was 2 (quartiles 1-5). A total 56.8% recurred on a median 28 months (quartiles 11-45). The 36-month survival rate was 83.5%. General mean 36-month survival was  $33.6 \pm 0.7$  months. After multivariate analysis adjusted for age, tumor size (per each additional centimeter, HR 1.99, 95%CI 1.12-3.53,  $p=0.019$ ) and surgical treatment (HR 0.16, 95%CI 0.06-0.46,  $p=0.001$ ) were associated with 36-month survival.

## Conclusions

Our results provided information regarding the clinical course and management of PTPR. Tumor size and surgical resection were associated with PTPR survival. We did not find significant benefit on

## Learning Objectives

By conclusion of this session, we should be able to: 1) Describe the natural history of the papillary tumor of the pineal region; 2) Identify prognostic variables of the PTPR's clinical course; 3) Determine best treatment option for the PTPR's.

## References

1. Dagnev E, Langford LA, Lang FF, DeMonte F. Papillary tumors of the pineal region: Case report. *Neurosurgery*. 2007;60(5)
2. Fauchon F, Hasselblatt M, Jouvett A, et al. Role of surgery, radiotherapy and chemotherapy in papillary tumors of the pineal region: A multicenter study. *J Neurooncol*. 2013;112(2):223-231