

# Reduction in the cerebrospinal fluid protein level after bevacizumab treatment in patients with optic pathway low-grade gliomas

Natalia Dassi<sup>1</sup>, Andrea M Cappellano<sup>1</sup>, Marcos D S Costa<sup>1</sup>, Rodrigo A Watanabe<sup>2</sup>, Carolina T Soares<sup>2</sup>, Frederico A Silva<sup>1</sup>, Daniela Barbosa Almeida<sup>1</sup>, Patricia A Dastoli<sup>1</sup>, Jardel M Nicacio<sup>1</sup>, Sergio Cavalheiro<sup>1</sup>, Nasjla Saba Silva<sup>1</sup>.  
1. IOP-GRAACC-UNIFESP, SP; 2. UNIFESP, SP.

Optic pathway gliomas can cause elevated cerebrospinal fluid (CSF) protein concentrations. We report on two patients, one and ten-years-old, with suprasellar low-grade gliomas with shunt disfunction and high CSF protein levels (590 mg/dL and 551 mg/dL) that precluded shunt implantation and after two and three doses of bevacizumab, respectively, the levels dropped dramatically to 191 mg/dL and 178 mg/dL.

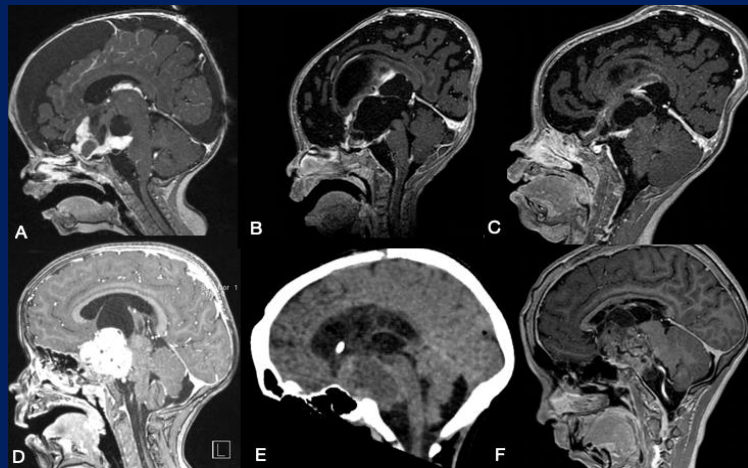


Figure 1. Panel of images of Cases 1 and 2. A) Sagittal MRI at diagnosis from Case 1; B) Sagittal MRI before the shunt malfunction; and C) Sagittal MRI 2 months after the vp-shunt placement. D) Sagittal MRI at diagnosis from Case 2; E) Sagittal brain CT scan at the time of the shunt malfunction and; F) Sagittal MRI 2 months after the vp-shunt placement in Case 2.

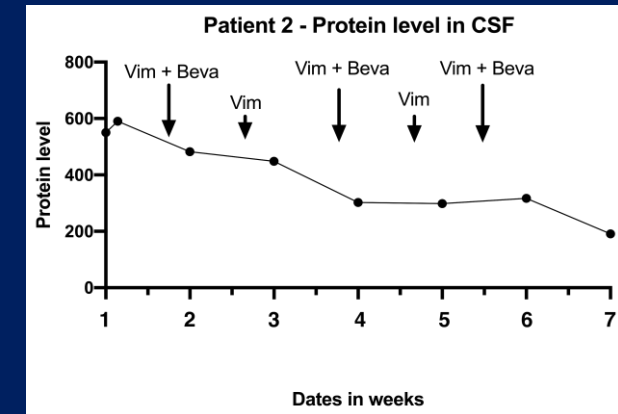
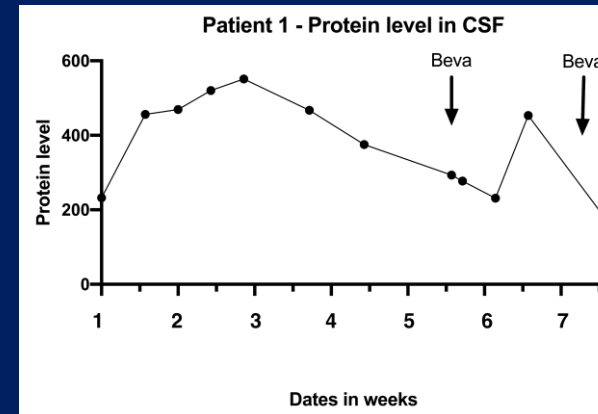


Figure 2. A) The graph shows the changes in the cerebrospinal fluid protein level (y-axis, mg/dL) before and after the administration of bevacizumab chemotherapy in Case 1. Arrows show the timing of administration of bevacizumab. B) The graph shows the changes in the cerebrospinal fluid protein level (y-axis, mg/dL) before and after administration of bevacizumab chemotherapy in Case 2. Arrows show the timing of administration of bevacizumab.

**Final Comments:** Bevacizumab treatment in patients with gliomas and high CSF protein levels seems effective in decreasing protein leakage from the vessels to the ventricles, thereby improving the scope for successful shunt placement.