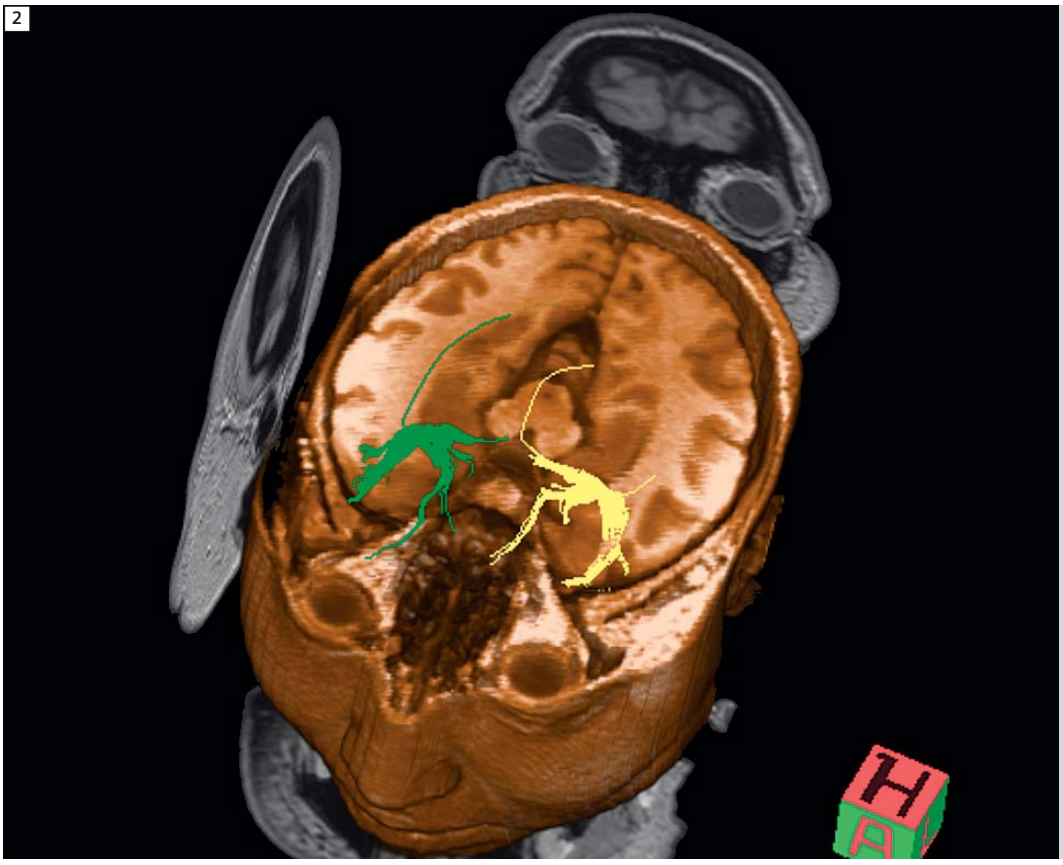
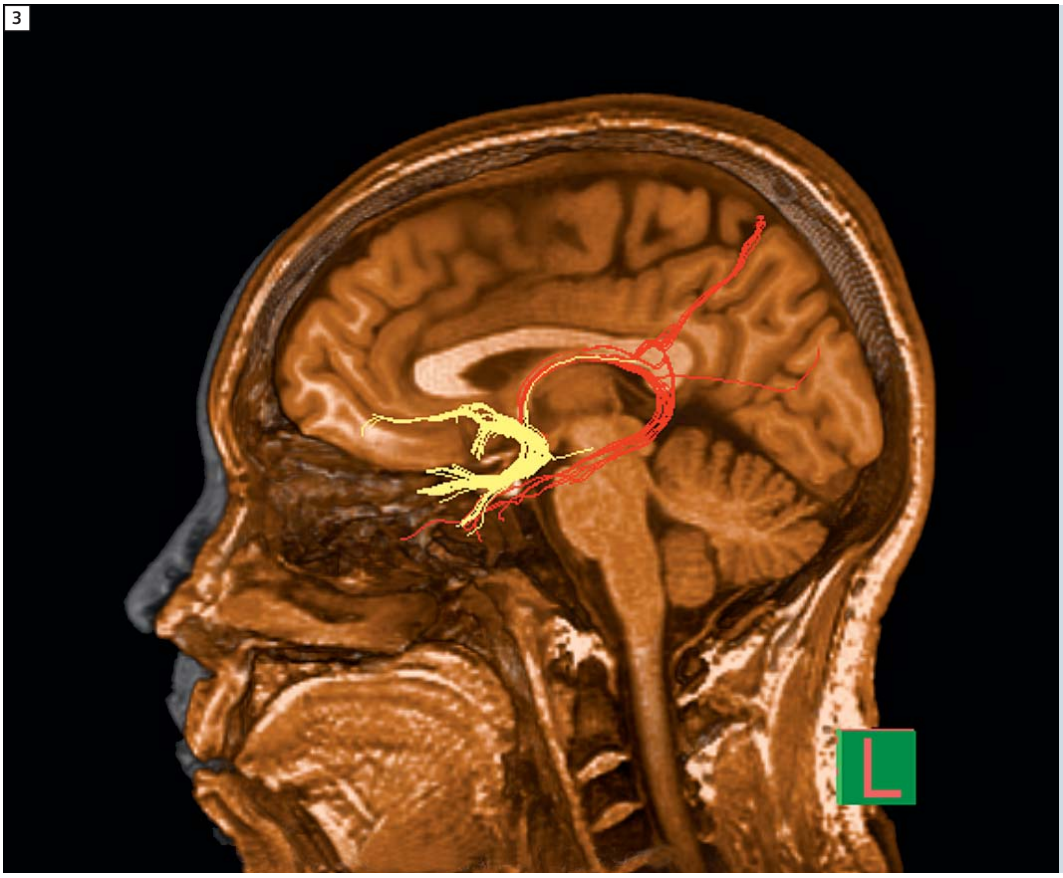
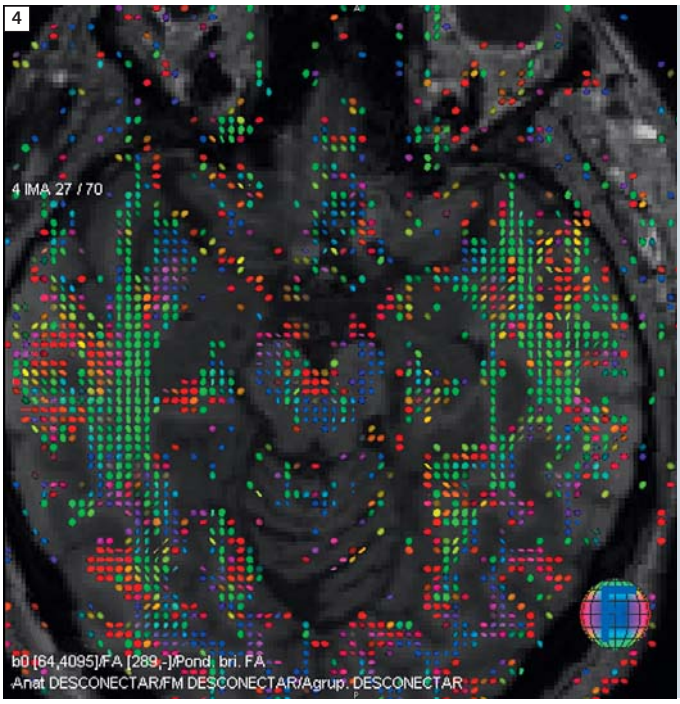


2 Tractography of uncinate fasciculus (left yellow, right green). To achieve the goal of the temporal epilepsy surgery (hippocampectomy and fronto-temporal disconnection), it is important to confirm the location of the uncinate fasciculus and temporal stem. A subtle loss of fibers in the frontal component of the left uncinate fasciculus is also appreciated.



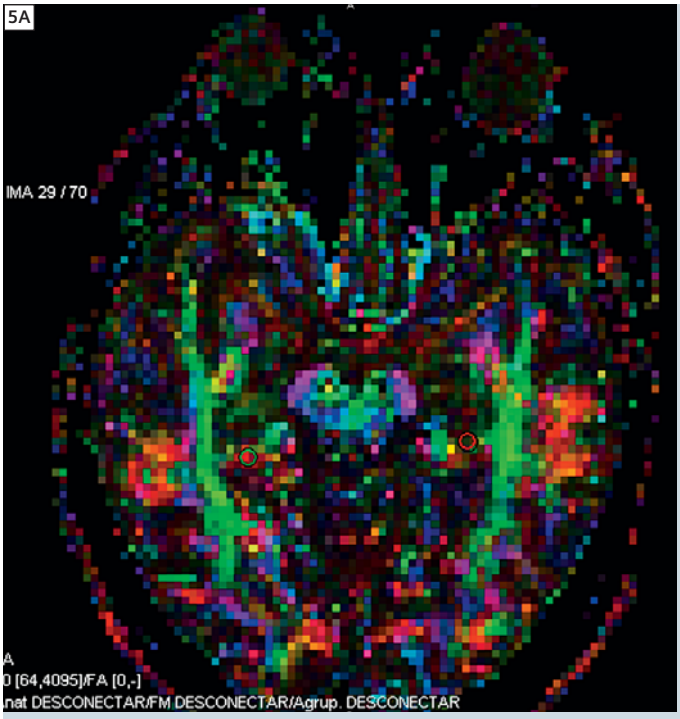
3 Tractography of the left uncinate fasciculus (yellow) and fimbria of the left hippocampus (red). Lateral projection. The tracts connected to the amydala-hippocampus complex are shown (fornix, cingulate and uncinate).



4 Glyph texture ("smarties") of a colored Fractional Anisotropy (FA) DTI T1-weighted anatomical slice at the hippocampi level of the temporal lobes. A clear asymmetry is shown in the location and orientation of the Eigenvectors between the hippocampi. At the left hippocampus the diffusion vectors are sparser and randomly oriented compared to the right hippocampus.

Conclusion

Based on the findings, the patient was treated by an anterior temporal Ojemann lobectomy. Pathology confirmed the left hippocampal and mesial sclerosis. Currently the patient is free of seizures. In conclusion, DTI tractography from an isotropic acquisition combined with 3D T1-weighted "neuronavigator" sequence are currently performed at our institution for the evaluation of patients and candidates for epilepsy surgery. In this case, the ROI analysis of DTI confirmed the diagnosis of mesial sclerosis. Tractography guides the neurosurgeon to recognize the temporal stem and connections of amygdalohippocampal complex, and has helped to performed less extense and aggressive surgical resections.



5B

ID	FA Media aritmética / Mín / Máx	FA Desv.Est. Tamaño	FA Media aritmética / Mín / Máx	FA Desv.Est. Tamaño	ADC Media aritmética / Mín / Máx	ADC Desv.Est. Tamaño
1	308.0	36.8	285.5	70.0	828.7	48.3
	3 / 262 / 352		6 / 177 / 381		3 / 761 / 871	
2	435.0	75.9	482.0	101.4	680.0	55.1
	4 / 385 / 566		6 / 385 / 654		4 / 605 / 740	

5 **(A, B)** Region-of-Interest (ROI) analysis of the hippocampus. There is loss of FA and increase of ADC in the left hippocampus compared to the right; these findings are very suggestive of left temporal mesial sclerosis.

Contact
Vicente Belloch, M.D.
Chief Radiologist and Scientific Director, ERESA.
Professor at the Universidad Jaime I de Castellón.
ERESA-Hospital La Fe
Valencia, Spain
vbelloch@eresa.com