

Neurological Clinic  
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### INTRODUCTION and PURPOSE

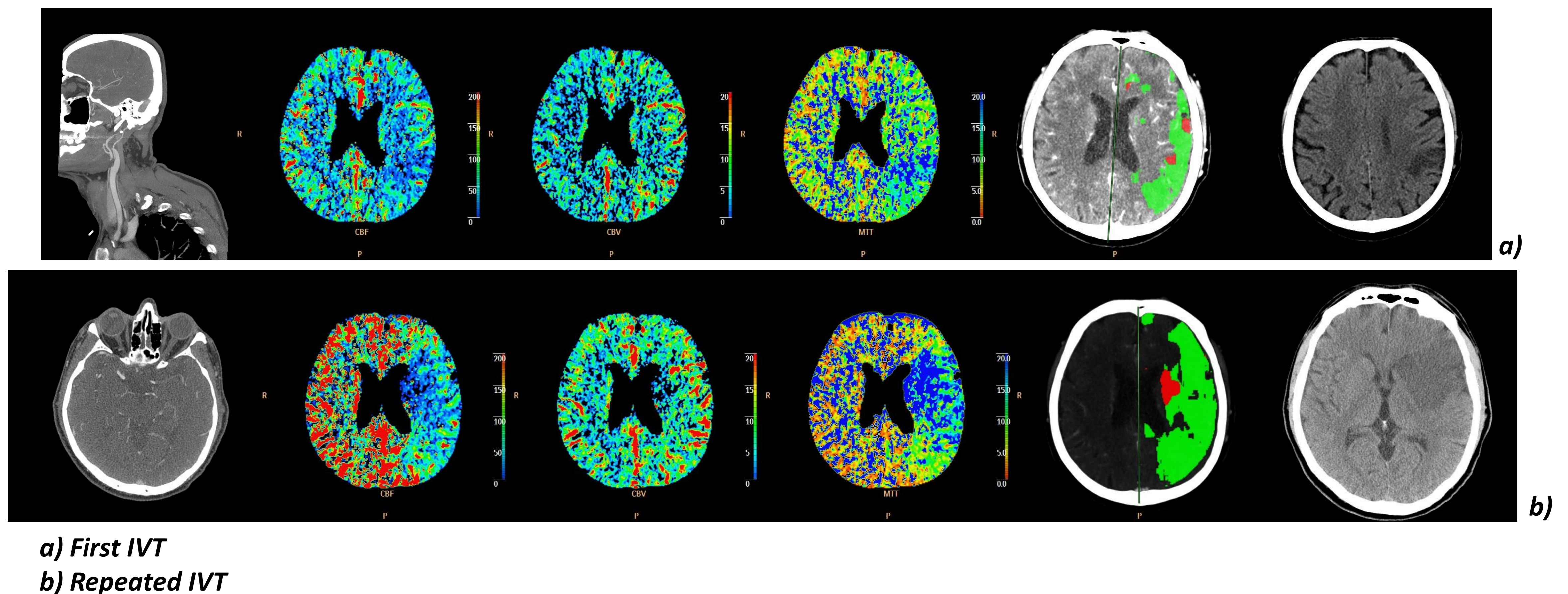
Stroke is one of the leading causes of disability and death all over the world with a time dependent course and prognosis. Prompt recognition and appropriate treatments are essential to ensure patient recovery. Intravenous thrombolysis (IVT) within 4.5 hours from symptom onset improves functional outcome in patients with acute ischemic stroke. Its use in patients with previous stroke within the preceding 3 months is contraindicated because of the assumed higher risk of intracranial hemorrhage. However, in the last decades several exclusion criteria for intravenous thrombolysis have been revisited. Among those, the possibility to perform IVT in previous stroke. Risk of stroke recurrence is very high especially in the first weeks, safety and effectiveness of repeated IVT before the “classical 3 months” has been shown.

### CASE PRESENTATION

We describe the case of a Caucasian healthy 59 years old male admitted to our Stroke Unity (University Hospital of Trieste) for a sudden onset of right hypoesthesia. The brain CT scan and the angio-CT of epiaortic vessel showed an occlusion of left ICA. Brain CT perfusion showed an ischemic penumbra in the left parietal lobe with a small core. Patient was treated with IVT and soon recovered. After 5 days he was discharged at home with an NIHSS=0. Within 2 days he arrived again to the ED for a sudden onset of right hemiparesis and aphasia. Brain CT scan and angio-CT were performed showing an hyperintensity of left MCA M1 segment. Brain CT perfusion showed an ischemic penumbra in the left fronto-temporo-parietal lobe with a small core in the left basal ganglia. After all IVT was repeated while mechanical thrombectomy was not indicated. Patient didn't show any adverse effect from IVT and slowly recovered. IVT was performed within 10 days from the previous treatment.

### DISCUSSION

The cumulative risk of stroke recurrence within 5 years after a first episode is about 25% and its incidence peaks during the first 90 days after an index stroke. Different literature cases in line with our experience showed a safe effect of IVT in patients with small infarct volumes. Repeated IVT has been seen to be safe within 30 days (interquartile range, 13–50). Functional independence and no symptomatic intracranial hemorrhage have been shown.



### CONCLUSION

IV re-thrombolysis may be safe and effective when recurrent stroke occurs after a period of complete neurologic regression lasting at least 24 h or minor disability. Particularly, patients with small infarct volumes and robust clinical improvement might be considered for repeated IVT. Studies following strict protocols and larger registries incorporating these patients might serve to identify selection criteria for the safe use of repeated IVT.

### REFERENCES

- Cappellari M, Moretto G, Bovi P. Repeated intravenous thrombolysis after recurrent stroke. A case series and review of the literature. *J Neurol Sci.* 2014 Oct 15;345(1-2):181-3.
- Yoo HS, Kim YD, Lee HS, Song D, Song TJ, Kim BM, Kim DJ, Kim DI, Heo JH, Nam HS. Repeated thrombolytic therapy in patients with recurrent acute ischemic stroke. *J Stroke.* 2013 Sep;15(3):182-8.