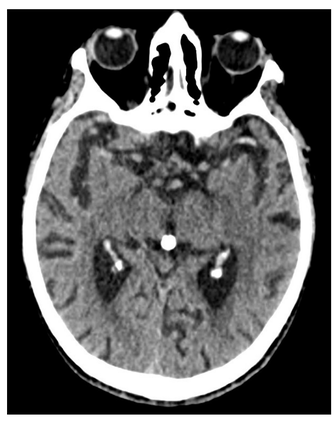
Recurrent ischemic stroke and ventricular hemorrhage after IV thrombolysis: is early anticoagulation with Rivaroxaban safe? A case report

Gentile C.[1], Gigli G.L.[1]; Valente M.R.[1], Bianconi C.[2], Adami A[2].

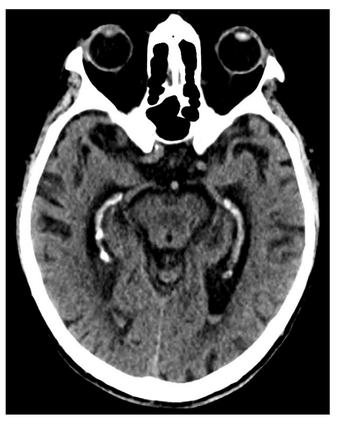
1. Neurology Clinic "S. Maria della Misericordia" University Hospital, Udine
2. Stroke Center "Sacro Cuore Don Calabria" Hospital, Negrar

Introduction: Direct Oral Anticoagulants (DOACs) have lower hemorrhagic complications rates, especially brain hemorrhage, compared to vitamin K antagonists[1]. Clinical trials investigating DOACs excluded patients with recent (=i.e. less than 7 days) ischemic stroke to avoid the risk for symptomatic Hemorrhagic Transformation (sHT)[2]. Despite the lack of clinical data, DOACs are perceived as safe and increasingly used in clinical practice even in the earlier days after stroke onset. We describe a case in which Rivaroxaban, an anti Xa coagulation factor, had been used for early ischemic stroke recurrence despite the presence of ventricular bleeding after thrombolysis.

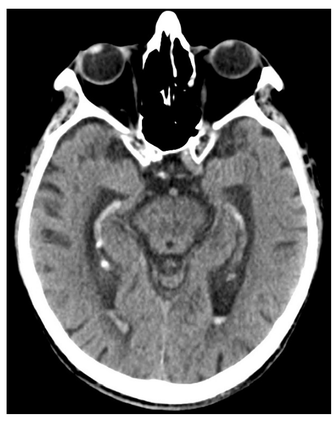
Case report: A 88 years old gentleman with permanent AF developed acute onset aphasia and right side weakness. Head CT was unremarkable for hemorrhagic and ischemic lesions while showing Middle Cerebral Artery (MCA) M1 vascular hyperattenuation sign. Intravenous thrombolysis within 3 hours from symptom onset was administered. On the following day, we observed an improvement of neurological status with milder right motor symptoms and minimal motor aphasia. 24 hours CT was negative for both parenchymal ischemia and vascular hyperattenuation signs while showing asymptomatic bilateral bleeding in occipital horns of lateral ventricles. At 48 hours CT, ischemic signs were evident in the terminal territory of left MCA inferior branch with vascular hyperattenuation spot on distal left MCA branch. On the fifth day, aphasia worsened. A brain CT showed a new ischemic lesion in left MCA inferior branch with distal MCA hyperattenuation sign with the persistence of intraventricular bleeding. Since an early ischemic event recurred, we decided to start anticoagulant therapy despite the bleeding. As the patient GFR was 34 ml/min, we used the reduced dose of Rivaroxaban 15 mg. During the following days the patient exhibited an improvement of neurological conditions. Eleventh day head CT demonstrated a reduction of intraventricular bleeding and the presence of small petechial HT within one ischemic lesion. Rivaroxaban was then continued after discharge.



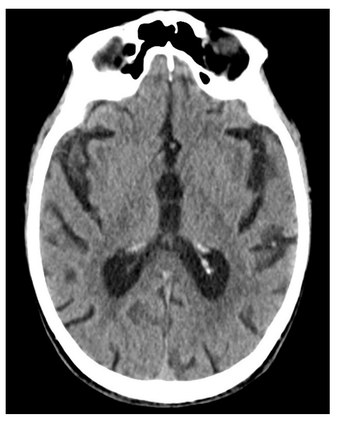
Before thrombolysis



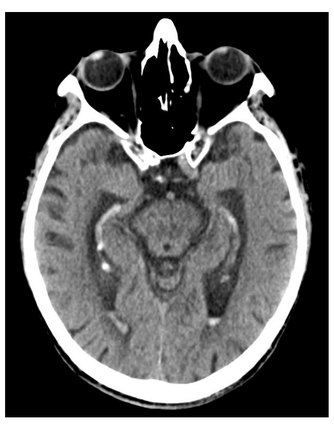
24h CT: intraventricular bleeding



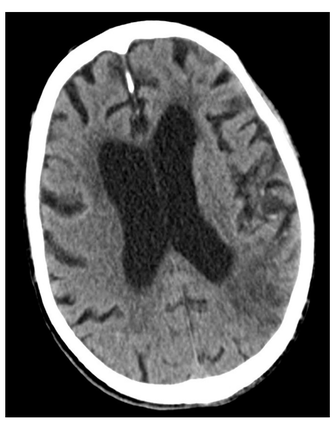
48h CT: intraventricular bleeding



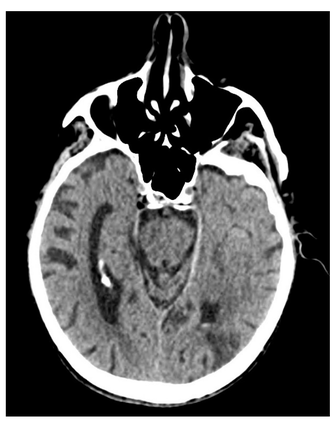
48h CT: Distal MCA hyperattenuation sign



5° day CT:
intraventricular bledding



5° day CT
new ischemic lesion



11° day CT:: reduction
of intraventricular bleeding

Discussion and Conclusion: In patients with cardioembolic stroke the timing for starting anticoagulant therapy is still a controversial issue as the risk of sHT. Due to DOACs lower bleeding risk, a rule of thumb of 1 (TIA) - 3 (non disabling stroke) - 6 (moderate stroke) - 12 (severe stroke) days had been advocated even in absence of clinical data[3]. No data are available regarding the timing for starting DOACs therapy in the presence of bleeding complications. In our case, the use of Rivaroxaban was associated with a clinical improvement in the absence of radiological worsening of ventricular bleeding and sHT. Clinical data are required to determine the appropriate timing for DOACs after an ischemic stroke.

References:
1. Christian T Ruff , Robert P Giugliano, Eugene Braunwald, Elaine B Hoff man, Naveen Deenadayalu, Michael D Ezekowitz, A John Camm, Jeff rey I Weitz, Basil S Lewis, Alexander Parkhomenko, Takeshi Yamashita, Elliott M Antman. Comparison of the effi cacy and safety of new oral anticoagulants with warfarin in patients with atrial fi brillation: a meta-analysis of randomised trials. Lancet 2014; 383: 955–62.
2. Patel MR, Mahaffey KW, Garg J, Pan G, Singer DE, Hacke W, Breithardt G, Halperin JL, Hankey GJ, Piccini JP, Becker RC, Nessel CC, Paolini JF, Berkowitz SD, Fox KA, Califf RM; ROCKET AFInvestigators. Rivaroxaban versus warfarin in nonvalvular atrial fibrillation. N Engl J Med. 2011 Sep 8;365(10):883-91.
3. Hein Heidbuchel, Peter Verhamme, Marco Alings, Matthias Antz, Werner Hacke, Jonas Oldgren, Peter Sinnaeve, A. John Camm, and Paulus Kirchhof. European Heart Rhythm Association Practical Guide on the use of new oral anticoagulants in patients with non-valvular atrial fibrillation. Europace (2013) 15, 625–651

Sin

XLVII CONGRESSO NAZIONALE
22-25 OTTOBRE 2016 – VENEZIA

WebPoster