

**ACUTE CEREBRAL
THROMBOSIS CAUSED
BY FLOW DIVERSION
STENT AND RESISTANCE
TO TICAGRELOR - CASE
REPORT**

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CASE PRESENTATION

A 52-year-old female presented to the interventional neurology team for treatment of saccular aneurysm located in the ophthalmic segment of the left internal carotid artery. As comorbidities she reported having Systemic Arterial Hypertension (SAH) and had a right breast mastectomy due to breast cancer. She reported using losartan 50mg and two weeks before the procedure the neurologist prescribed prasugrel and acetylsalicylic acid 100mg.

Cerebral angiography was requested for treatment of the aneurysm. In the cerebral angiography a flow diversion stent was positioned in the left middle cerebral artery. The final control showed incomplete opacification of the internal carotid due to platelet aggregation, denoting subsequent stenosis. Balloon angioplasty was performed, but was unsuccessful. It was necessary to use a 4x14 hyperglide balloon, showing improvement of the left internal carotid artery, but presenting occlusion of the upper trunk of the left M1 associated with the avascular area. A 3x20mm Trevo stent progression was performed in the same Rebar18 catheter, released in the m3-m2 segment of the left middle cerebral, and thrombus was removed.

Being requested Computed Tomography of the skull for follow-up.

DISCUSSION

Taking into consideration that the patient in question takes the platelet antiaggregant ticagrelor 90 mg, it is necessary to point out some information about it. Ticagrelor is a platelet antiaggregant medication that acts differently from clopidogrel and prasugrel. The 3 drugs have the same mechanism of action, which is to inhibit the platelet receptor P2Y₁₂, but while the thienopyridines act irreversibly, ticagrelor has a reversible effect. (LI et al., 2022)

Ticagrelor has the reversibility factor which is probably the fact that it can be used on an emergency basis (e.g. in an emergency room before performing catheterization). However, non-adherence to or improper administration of ticagrelor can have consequences, since the omission of 3 or 4 doses of this medication can considerably increase the risk of stent thrombosis. That is, patients who are poorly adherent or not fully informed about the treatment are a group potentially contraindicated to receive ticagrelor in the long term. (BRASIL, 2013)

As for possible bleeding, a 2018 Medicine (Baltimore) study showed that ticagrelor is associated with a significantly higher rate of overall bleeding (Guan et al., 2018). Based on the case of the patient in question and according to a study published by the American Journal of Neuroradiology, several factors can influence intracranial aneurysm thrombosis, such as: flow-diverter stenting, which causes reduced blood flow. However, due to the lack of detailed measurements of intra-aneurysmal flow, its real impact remains uncertain. (BRINA, 2019)

CONCLUSION

The reported case and exposed publications bring the discussion succession of infrequent events. The patient used prasugrel and acetylsalicylic acid within two weeks prior to the angiography and at the time of the procedure was administered ticagrelor. Conduct after placement of a flow diversion stent in the left middle cerebral artery caused cerebral thrombosis, which was resolved with thrombectomy and the use of tirofiban hydrochloride.