""Sertraline Can Harm Me, Doctor!": What the Consultation Liaison Psychiatrist Needs to Know About Call–Fleming Syndrome

Sarita R. Shah, MD, PhD, Eamonn Mehaffey, MD, Lama Muhammad, MD

Background

•Call–Fleming syndrome, also known as Reversible cerebral vasoconstriction syndrome (RCVS), is characterized by reversible cerebral vasoconstrictions, based on medical literature it frequently associates with severe recurrent thunderclap headaches and stroke.

•More than half the cases occur post-partum or after exposure to adrenergic or serotonergic drugs (Ducros) moreover, depression and anxiety are common comorbid diagnoses.

•CL psychiatrists will be called not only to substitute an SSRI as a precipitant agent with more tolerated anti-depression but also to treat co-morbid psychiatric illnesses.

Method

The authors will describe two cases of reversible cerebral vasoconstriction syndrome (RCVS) in patients with depression, review the literature on its prevalence, etiologies, and treatments, and discuss RCVs in the context of other psychopathologies that frequently affect the mood.

Results

Case 1

A 54 y/o female with a significant past medical history of Ehlers-Danlos Syndrome and past psychiatric history of depression and anxiety, previously stable on Escitalopram 10mg/day was diagnosed with RCVS, so Escitalopram was stopped, and psychiatry's help was requested. The patient was started on mirtazapine with incomplete effect and eventually stabilized on a combination of mirtazapine and bupropion with improvement in depression and anxiety symptoms.

Case 2

A 46 y/o old female with depression, and PTSD who was previously stable on Sertraline 250mg/day, was diagnosed with RCVS. C-L team got consulted to change depression medication as "Sertraline can harm the patient" in RCVs cases. The patient was started on Mirtazapine 15mg at night and eventually stabilized on Mirtazapine 45 mg/QHS.

Discussion

• Call–Fleming syndrome, also known as Reversible cerebral vasoconstriction syndrome, is characterized by severe headaches, with or without other symptoms (nausea, vomiting, photophobia, and phonophobia) during episodes. Depression and anxiety are very common between episodes.

Discussion (cont.)

• RCVS affects females slightly more than males, and the mean age of onset is around 45 years. It is increasingly recognized. (Ducros) Many other nomenclatures in medical literature, as migraine angiitis, postpartum angiopathy, and drug-induced vasospasm.

• The pathophysiology involves diffuse, multifocal constriction and dilation of intracranial arteries (Fig. 1). Vasospasm is thought to be secondary to disturbance of vascular tone control of intracranial vessels. The segmental constriction of cerebral arteries resolves generally within 3 months (Ducros) Approximately 60% of cases are due to a known cause, mainly postpartum and exposure to known psychoactive substances (Sattar). There is evidence that serotonin plays a role in vasospasm associated with RCVS (Singhal).

•The diagnosis of RCVS involves CT angiography, MRI angiography, or transfemoral angiography, with some patients undergoing serial transcranial doppler ultrasonography. Most patients are subjected to 2 vascular imaging modalities (Singhal). CSF exam should be performed to evaluate for subarachnoid hemorrhage. Most often, CT and MRI will be normal; MRA shows diffuse arterial vasoconstriction in up to 90% of cases within the first 1-2 weeks (Sattar).

•Optimal treatment is still unclear in individual cases. Treatment involves observation, prevention of hypotension, and calcium channel blockers if necessary. It is generally agreed that contributing offending agents, especially serotonergic and sympathomimetic agents, should be discontinued. Mirtazapine and bupropion theoretically carry a lower risk of precipitating RCVS, but risk still remains as mirtazapine still has some serotonergic action. Some literature suggests that ECT should be considered earlier in these patients (Manning).

•C-L psychiatrists often get consulted to treat comorbid depression and anxiety. Management choice is not always easy as SSRIs can precipitate RCVS episodes.

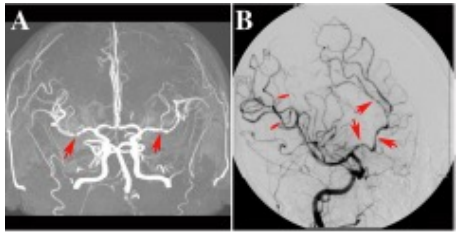

Figure 1. Vascular imaging in RCVS. A) MRA shows multiple bilateral constrictions of the MCA (red arrows). B) Cerebral angiography shows multiple constrictions and dilations in the MCA (narrow red arrows) and ACA (thick red arrows). Reproduced with permission under Creative Commons License from Liang et al.

Conclusion

Consultation psychiatrists should be aware of Call–Fleming syndrome and the treatment of co-morbid psychiatric illnesses and/or managing patient's medications in the setting of this medical diagnosis. More studies are needed to decide how to best treat this syndrome.

References

Ducros A. *Lancet Neurol* 2012;11: 906–917

Singhal, et al. *Arch Neurol.* 2011 Aug;68(8):1005-12.

Sattar et al, *Expert Rev Cardiovasc Ther*. 2010 Oct; 8(10): 1417–1421.

Singhal. *Top Stroke Rehabil.* Spring 2004;11(2):1-6.

Manning et al. *J Acad Consult Liaison Psychiatry*. 2021 Aug 8;S2667-2960(21)00138-5.

Liang et al. *Orphanet J Rare Dis.* 2015 Apr 22;10:47.