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A Case Study on Cerebral Venous Thrombosis Induced by Inappropriate Usage of Oral Contraceptive Pills

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ABSTRACT

Cerebral Venous Thrombosis is a life-threatening disease characterized by thrombosis of the cerebral venous system, leading to complications like venous infarction, subarachnoid hemorrhage and pulmonary embolism. Inappropriate usage of Oral Contraceptive Pills is one of the major risk factors for developing Cerebral Venous Thrombosis, collagen vascular diseases and other hypercoagulable states in women. This article discusses a case report of variety of Cerebral Venous Thrombosis induced by inappropriate usage of Oral Contraceptive Pills, its clinical presentation, diagnosis and management.



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INTRODUCTION

Cerebral venous thrombosis is condition of blood clot in cerebral vein of the brain. Accumulation of blood in this vein leads to leakage of fluid into brain tissues and cause hemorrhage or severe brain swelling. Various risk factors for Cerebral Venous Thrombosis include Pregnancy, Oral Contraceptive Pills, Hyper-homocystenemia, Cerebral Nervous System infections, autoimmune diseases, Trauma, Malignancy, infections, Thrombophilia, Dehydration and Congenital or acquired abnormalities of the hemostatic system¹. Consumption of Oral Contraceptive Pills is a known risk factor for developing cerebral venous thrombosis among women. We present a case of development of Chronic Cerebral Venous Thrombosis with inappropriate use of Oral Contraceptive Pills, to increase awareness of usage of Oral Contraceptive Pills, in clinical management. Cerebral Venous Thrombosis is three times more prevalent in women taking oral contraceptive pills. A recent meta-analysis found a 7.59 times increase in incidence among women on Oral Contraceptive Pill's².

MATERIALS AND METHODS

A 47-year-old woman appeared in the Emergency Department with complaints of severe headache for 1 month and vomiting of 2-3 episodes/day for 1 week. She had a history of consuming Oral Contraceptive Pills - Norethisterone- 5 mg and Ethinylestradiol for 3 years. Laboratory tests revealed slightly elevated levels of C-reactive protein - 14.2 mg/L and D-dimers - 2.33 μ L/ml, and the cranial magnetic resonance imaging displayed Small focal edema in left Centrum semi ovale and mild peri-ventricular ischemic changes.

In view of clinical suspicion of Cerebral Venous Thrombosis, on the second day, contrast enhanced magnetic resonance venography demonstrated the thrombosis of a Cerebral vein (cortical vein). The intravenous thrombolysis was conducted with heparin. Patient had a progressively paroxysmal dizziness, deteriorated nausea and vomiting. The clinical symptoms of the patient aggravated rapidly with choking, hoarseness and lip skewing to the left. Five months later, the patient's clinical symptoms improved significantly, and radiology examination showed improvements in old hemorrhage.

Treatment:

The patient was treated with low molecular weight heparin followed by oral anticoagulants, Acenocoumarol to maintain her INR- International Normalised Ratio, in the desired range.

Anti-oedema measures were taken until edema resolved and the patient became asymptomatic. There were no further episodes of headache and vomiting during 10 days stay in the hospital. The patient was discharged after promising improvements in Magnetic Resonance Imaging like partial re-canalization were evident and discharge medications included oral anticoagulants (Tranexemic acid) and multivitamins (Vitamin B12, Vitamin B6, Folic acid). She was also advised to avoid Oral Contraceptive Pills which cause prothrombotic conditions, especially, norethisterone and was advised to consult with a gynecologist for further follow up visits. The patient followed up after one month and was completely asymptomatic and further examination of radiology reports like Magnetic Resonance Imaging of Cerebral Venous of the brain revealed re-canalization.

DISCUSSION

Cerebral Venous Thrombosis is a rare disease and grave condition leading to disability and death. Several studies have demonstrated cause and effect relationship between oral contraceptive and the development of Cerebral Venous Thrombosis and large numbers of observational studies have revealed that combined oral contraceptives are associated with two fold to six fold increased risk of venous thrombosis³. In oral contraceptive formulations, the estrogen compound (ethinyloestradiol) is thought to cause the increased risk of thrombosis. Reduction of ethinyloestradiol compound in the dose of oral contraceptive would result in a reduced risk of venous thrombosis. This case report also provided history of taking norethisterone- 5 mg, thrice daily for three years before diagnosis of Cerebral Venous Thrombosis for the treatment of irregular and excessive bleeding during menstruation. Similar type of case was reported in married women, norethisterone induced Cerebral Venous Sinus Thrombosis presenting as superior sagittal sinus thrombosis that had pre excising hyperhomocysteinemia⁴. Another case of norethisterone induced Cerebral Venous Thrombosis presenting as subarachnoid hemorrhage in a patient of menorrhagia⁵. Although hyperhomocysteinemia is considered as a risk factor for Deep Vein Thrombosis and stroke, clear evidence has not been established for an increased risk of Cerebral Venous Thrombosis since chronic kidney diseases, alcoholism and certain medications may also increase serum homocysteine levels⁶. To reduce elevated level of plasma homocysteine, vitamin supplementation primarily with folic acid, Vitamin B6 and Vitamin B12 has been found to be effective⁷.

CONCLUSION

The WHO recommends to avoid using Oral Contraceptive Pills in women who have thrombogenic mutations, smokers, those aged 35 years or more and 21 days post-partum to prevent thromboembolic complications⁸.

It can be concluded that, women should be educated to necessarily follow the physician's prescription when consuming Oral Contraceptive Pills, because of its direct association with development of Cerebral Venous Thrombosis. Nonspecific clinical symptoms of headache and seizures, when reported by a patient using OCPs for longer duration indicates clinical suspicion of possible Cerebral Venous Sinus Thrombosis. Magnetic Resonance Imaging and Clinical correlation are suggested to help with diagnosis. Follow-up to avoid the onset of complications such as permanent parenthetical damage, cerebral hemorrhage and pulmonary embolism as soon as possible has to be performed for well being of the patient.

REFERENCES:

1. McBane RD, Tafur A, Wysokinski WE. Acquired and congenital risk factors associated with cerebral venous sinus thrombosis. *Thrombosis Research*. 2010;126(2):81-7.
2. Payam K, Kambiz H. A case-series study of cerebral venous thrombosis in women using a short course oral contraceptive. *Iran J Neurol*. 2016;15(2):92-5
3. van Hylekama Vlieg A, Helmerhorst FM, Rosendaal FR. The risk of deep venous thrombosis associated with injectable depot-medroxyprogesterone acetate contraceptives or a levonorgestrel intrauterine device. *Arterioscler Thromb Vasc Biol*. 2010;30(11):2297-300.
4. Gatt A, Makris M. Hyperhomocysteinemia and venous thrombosis. In *Seminars in hematology* 2007 Apr 1 (Vol. 44, No. 2, pp. 70-76). WB Saunders.
5. Tanwar HS, Gadpayle A, Rai B, Dubey K. A rare case of drug-induced cortical venous sinus thrombosis presenting as subarachnoid hemorrhage in a patient of menorrhagia: A great clinical dilemma in management. *J Indian Acad Clin Med*. 2010;11(4):330-5.
6. Martinelli I, Battaglioli T, Pedotti P, Cattaneo M, Mannucci PM. Hyperhomocysteinemia in cerebral vein thrombosis. *Blood*. 2003 Aug 15;102(4):1363-6.
7. Saposnik G, Barinagarrementeria F, Brown Jr RD, Bushnell CD, Cucchiara B, Cushman M, Deveber G, Ferro JM, Tsai FY. Diagnosis and management of cerebral venous thrombosis: a statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*. 2011 Apr;42(4):1158-92.
8. World Health Organization. Medical eligibility criteria for contraceptive use. 2008. Available as: <https://www.ncbi.nlm.nih.gov/books/NBK321153/>.