

A study of prevalence of cerebral venous sinus thrombosis presenting in puerperium at tertiary health care centre

Sharvari V Jadhav^{1*}, Vikramsinha K Jadhav²

¹Associate Professor, Department of OBGY, Bharati Vidhyapeeth Deemed University Medical College and Hospital Sangli, Maharashtra, INDIA.

²Assistant Professor, Department of Medicine, IMSR, Mayani, Satara, Maharashtra, INDIA.

Email: sharwari68@gmail.com

Abstract

Introduction: Cerebral venous thrombosis (CVT), caused by the obstruction of cerebral venous flow, is regarded as a rare and specific type of stroke, accounting for less than 1% of the stroke population. **Aims and Objectives:** To Study Prevalence of Cerebral Venous Sinus Thrombosis Presenting In Puerperium at Tertiary Health Care Centre **Methodology :** This was a Cross sectional study carried out at Tertiary health care centre. All the patient have diagnosed as Cerebral Venous Sinus Thrombosis during 5 year period during January 2010 to January 2015 were studied by their care Records . Out of Total 1760 Delivery occurred as per above criteria only 35 patients were having Cerebral Venous Sinus Thrombosis complication. To see statistical significance between presence or absence of associated factor with Cerebral Venous Sinus Thrombosis a Z-test (Standard error of Difference between two proportions was used) **Result:** The most common clinical features associated were Headache 82.85% Blurred Vision (68.57%), Focal neurological Deficit (60.00%), Somnolence (54.28%), Altered Consciousness (48.57%), Epilepsy and Seizures (34.28%), Limb Paresis (25.71%),Paroxysmal Blurred vision (20.00%), Fever (17.14%) respectively. The risk factors significantly associated with Cerebral Venous Sinus Thrombosis Presenting In Puerperium were H/O Eclampsia (P< 0.005), H/O Anaemia in pregnancy (P<0.001) H/O PPH (P<0.05), Dehydration (P<0.05), Septicemia(P<0.05), H/O Caesarean Delivery (P <0.005), Gravida III or More (P < 0.01), H/O RHD(P< 0.005), H/O Oral Contraceptives H/O Diabetes(P<0.001). **Conclusion:** The most common clinical features in Cerebral Venous Sinus Thrombosis were Headache Blurred Vision, Focal neurological Deficit and most common risk factors associated found in our study were H/O Eclampsia, H/O Anaemia in pregnancy H/O PPH , Dehydration, Septicemi, H/O Caesarean Delivery, Gravida III or More, H/O RHD, H/O Oral Contraceptives H/O Diabetes. **Keywords:** Cerebral Venous Sinus Thrombosis, Puerperium, PPH (Post- partum – Hemorrhage), RHD(Rheumatic Heart Disease).

*Address for Correspondence:

Dr. Sharvari V Jadhav, Jadhav hospital. Neurology centre and Maternity, Sangli, Maharashtra, INDIA.

Email: sharwari68@gmail.com

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INTRODUCTION

Cerebral venous thrombosis (CVT), caused by the obstruction of cerebral venous flow, is regarded as a rare

and specific type of stroke, accounting for less than 1% of the stroke population.¹ However, no large-scale population-based studies have been conducted and the exact incidence of CVT is therefore unknown. The peak incidence in adults occurs in patients aged 30–40 years old, with women more likely to be affected than men.² The most frequent causes in women include pregnancy, labor or abortion, and oral contraceptives.^{3,4} Several studies found that over half the CVT cases were associated with pregnancy.^{5,6} In a global survey of pregnancy-related hospitalized cases in over 1000 hospitals in 2000–2001, 50 out of 2850 stroke cases were confirmed as CVT (20 cases before and 30 cases after delivery). The incidence was 6.0 per 1 million deliveries,

accounting for 2% of pregnancy-related strokes.⁷ Pregnancy-related CVT, although rare, significantly increases the risk of stroke in women and may develop into cerebral hemorrhage if not treated promptly. Hemorrhagic infarctions are independent predictors of unfavorable outcome,⁸ and early diagnosis and prompt treatment are thus of the utmost importance. However, missed, delayed or misdiagnoses of CVT are common because of its low incidence, insidious onset, and diverse clinical presentations.^{9,10} Although headache is the most frequent relevant symptom, it is usually ignored during pregnancy and postpartum. Reasoning errors and a lack of fundamental knowledge are also important causes of misdiagnoses.¹¹ The study identified an increased risk of peripartum stroke in nonwhite women, in women with cesarean delivery, in women with pregnancy-related hypertension, and in women who delivered in large and proprietary hospitals.¹² Pregnancy and puerperium are well established causes of venous thromboembolism (VTE), including intracranial venous thrombosis.^{13,14} Several physiological changes in coagulation system render pregnancy and puerperium prothrombotic states.¹⁵⁻¹⁶

MATERIAL AND METHODS

This was a Cross sectional study carried out at Tertiary health care centre, All the patient have diagnosed as Cerebral Venous Sinus Thrombosis during 5 year period during January 2010 to January 2015 were studied by their care Records, Those patients diagnosed and Confirmed by CT scan or MRI were include into the study and various parameters like Gravida, Common Clinical features and Most common associated factors were recorded. Out of Total 1760 Delivery occurred as per above criteria only 35 patients were having Cerebral Venous Sinus Thrombosis complication. To see statistical significance between presence or absence of associated factor with Cerebral Venous Sinus Thrombosis a Z-test (Standard error of Difference between two proportions was used).

RESULT

Table 1: Distribution of the Patients as per most common Clinical Features (n=35)

Clinical Features	No.	Percentage (%)
Headache	29	82.85%
Blurred Vision	24	68.57%
Focal neurological Deficit	21	60.00%
Somnolence	19	54.28%
Altered Consciousness	17	48.57%
Epilepsy and Seizures	12	34.28%
Limb Paresis	9	25.71%
Paroxysmal Blurred vision	7	20.00%
Fever	6	17.14%

The most common clinical features associated were Headache 82.85% Blurred Vision (68.57%), Focal neurological Deficit (60.00%),Somnolence (54.28%),Altered Consciousness (48.57%), Epilepsy and Seizures (34.28%),Limb Paresis (25.71%),Paroxysmal Blurred vision (20.00%), Fever (17.14%) respectively.

Table 2: Distribution of the Patients as per the associated Factors (n=35)

Associated Factor	Present No. (%)	Absent No. (%)	P-value
H/O Eclampsia	25 71.42%	10 28.58%	P< 0.005
H/O Anaemia in pregnancy	30 85.71%	5 14.29%	P<0.001
H/O PPH	20 57.14%	15 42.86%	P<0.05
Dehydration	22 62.85%	13 37.15%	P<0.05
Septicemia	19 54.28%	16 45.72%	P<0.05
H/O Cesarean Delivery	27 77.14%	8 22.86%	P <0.005
Gravida III or More	17 48.57%	18 51.43%	P < 0.01
H/O RHD	18 51.42%	17 48.58%	P< 0.005
H/O Oral Contraceptives	24 68.57%	11 31.43%	P<0.001
H/O Diabetes	26 74.28%	9 25.72%	P<0.005

The risk factors significantly associated with Cerebral Venous Sinus Thrombosis Presenting In Puperium were H/O Eclampsia (P< 0.005), H/O Anaemia in pregnancy (P<0.001) H/O PPH (P<0.05), Dehydration (P<0.05), Septicemia (P<0.05), H/O Cesarean Delivery (P <0.005), Gravida III or More (P < 0.01), H/O RHD(P< 0.005), H/O Oral Contraceptives H/O Diabetes(P<0.001) H/O Diabetes (P<0.005).

DISCUSSION

Although strokes are rare in young women, their risk is greatly increased by pregnancy and delivery. During pregnancy, physiological changes favor the development of venous thromboembolism. More coagulation factors are produced and fibrinolytic activity is reduced, resulting in a physiological hypercoagulatory status.^{17,18} In addition, pressure from the enlarged uterus slows down the blood flow and can even cause stasis. Moreover, acute blood loss during delivery, postpartum infection, and prolonged lying in bed dramatically increase the chance of venous thromboembolism. Death from cerebrovascular events during pregnancy and the puerperium typically results from intracranial hemorrhage or malignant hypertension.¹⁹ Maternal deaths associated with ischemic lesions are uncommon, particularly with venous thrombosis, and when they do occur, they usually result from secondary intracranial hemorrhage.²⁰ Although recent studies have demonstrated that the prognosis of IVT is far better than previously thought and better than that for arterial stroke^{21,22} in the present study the mortality rate associated with IVT was still lower than would be anticipated. In recent studies, the rate of death from all causes of IVT has generally been from 2% to

10%,^{21,22} although some of these studies incorporated cases collected over a large time span.²² The mortality rate is significantly less for IVT related to pregnancy and the puerperium than for IVT from other causes.²² In series of recent cases, there have been almost no deaths among cases related to pregnancy and puerperium^{19,20,21}. In our study we have found that The risk factors significantly associated with Cerebral Venous Sinus Thrombosis Presenting In Puerperium were H/O Eclampsia (P< 0.005), H/O Anaemia in pregnancy (P<0.001) H/O PPH (P<0.05), Dehydration (P<0.05), Septicemia (P<0.05), H/O Cesarean Delivery (P <0.005), Gravida III or More (P < 0.01), H/O RHD(P< 0.005), H/O Oral Contraceptives H/O Diabetes(P<0.001) H/O Diabetes (P<0.005).

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