

**Original article:**

## Study of complication of CVST in Indian population

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### Abstract:

**Introduction:** The recent introduction of noninvasive and highly sensitive diagnostic techniques such as magnetic resonance imaging (MRI), magnetic resonance angiography (MRA), and computed tomography angiography (CTA) has modified our knowledge of the spectrum of illness associated with CVT.

**Methodology:** The study was carried out at a Padmashree Dr.D.Y.Patil Medical College Pimpri Pune . The study spanned over a period from June 2009 to September 2011.

**Result:** In the present study sagittal sinus 42.85%,38.46%.32.14%% was most common sinus found to be thrombosed in all the groups followed by sigmoid+transverse sinus.

**Conclusion:** The risk of thrombosis increase in pregnancy and puerperium due to hypercoagulable state (as a result of increase in fibrinogen level, platelet count and platelet adhesiveness), venous stasis .(due to loss of venous tone) and other factors (pelvis infection, anemia, septicemia of pregnancy, dehydration.

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### Introduction:

The recent introduction of noninvasive and highly sensitive diagnostic techniques such as magnetic resonance imaging (MRI), magnetic resonance angiography (MRA), and computed tomography angiography (CTA) has modified our knowledge of the spectrum of illness associated with CVT.<sup>1</sup> The ability to accurately detect less clinically severe cases of CVT has modified the "natural history" of this disorder. Although the functional outcome from CVST is better than that of arterial stroke, the outcome of CVST remains largely unpredictable<sup>2</sup>

### Methodology:

The study was carried out at a Padmashree Dr.D.Y.Patil Medical College Pimpri Pune . The study spanned over a period from June 2009 to September 2011.

A total of 62 cases of CVST confirmed by radio imaging were included in the study.

All patients admitted to the hospital with a CT scan /MRI/MRV finding diagnostic of CVST were included in the study. Those with confirm diagnosis of CVST were taken up for analysis.

### Exclusion criteria:

- All patients less than 18 yrs of age.
- Patients of stroke due to arterial cause.

A detailed history from patient and relatives was obtained. Detailed clinical examination was recorded in each case as per proforma. All patient were subjected to CT scan and MRI/MRV as per feasibility to confirm diagnosis and localization of CVST.

**Results:**

TABLE 1 .ANALYSIS OF SINUSES INVOLVED ACCORDING TO ETIOLOGICAL FACTOR

SINUSNEIN INVOLVED	PREGNANCY AND PUERPERIUM		IDIOPATIDC		SECONDARY	
	No of cases	%	No of cases	%	No of cases	%
SAGITTAL SINUS	9	42.85	5	38.46	9	32.14
SIGMOID SINUS	1	4.76	1	7.69	1	3.57
SIGMOID+TRANSVERSE	8	38.09	4	30.76	6	21.42
STRAIGHT SINUS	0	0	0	0	1	3.57
MULTIPLE SINUSES	0	0	0	0	1	3.57
CORTICAL VEIN	0	0	1	7.69	0	0
INTERNAL CEREBRAL	1	4.76	0	0	0	0

In the present study sagittal sinus 42.85%,38.46%.32.14%% was most common sinus found to be thrombosed in all the groups followed by sigmoid+transverse sinus. In the present study pregnancy and puerperium resulted in 34.87% (95% CI 30.8-64.5) of cases followed by secondary factors and id iopathic factors 20.96% (95% CI 11.7 - 33.2) . In the present study 54 out of 62 patients showed full recovery (90%) (95% CI 8.1-96.4).4 patients (6%) (95% Cil.8-15.7) recovered with residual neurological deficit.2 patients succumbed to the illness showing a mortality of 3%.

**Discussion:**

Prognosis was better in most cases .54 out of 62 patients showed full recovery(90% ).4 patients (6%) recovered with residnal neurological deficit.2 patients succumbed to the illness showing a mortality of 3%.Ameri et al<sup>3</sup>,Villringer et al<sup>4</sup>,de Brnjin<sup>5</sup> et al recorded a death rate between 5.5% -18%.Ferro et al<sup>6</sup> (ISCVT) recorded a m0liality rate of 3-4% comparable to this study. The risk of thrombosis increase in pregnancy and puerperium due to hypercoagulable state (as a result of increase in fibrinogen level, platelet count and platelet adhesiveness), venous stasis .(due to loss of venous tone) and other factors(pelvis infection, anemia, septicemia of pregnancy, dehydration) Nagaraj et ai<sup>2</sup>.In his study in 1987 reported that this group was responsible for 81% of cases while Wadia et ai<sup>2</sup> found pregnancy and puerperium responsible for 30% of cases. The portion of this group, which was very high initially, has been dropping down with availability of better imaging facilities and knowledge of newer factors responsible for thrombosis. Second largest group was secondary group. Third largest group was idiopathic group (20%).Even after subjecting these patients to coagulation studies; a cause could not be ascertained. It is same as Wadia et ai<sup>2</sup> that the etiological factor could not be ascertained in 28% cases in his study. The portion of this group which was high as 50% in earlier studies (Pa1ikh et al<sup>7</sup>) has dropped down and is expected to fall further due to increasing use of tests to diagnose conditions like thlombophilias which was not

possible earlier.

**Conclusion:**

The risk of thrombosis increase in pregnancy and puerperium due to hypercoagulable state (as a result of increase in fibrinogen level, platelet count and platelet adhesiveness), venous stasis .(due to loss of venous tone) and other factors (pelvis infection, anemia, septicemia of pregnancy, dehydration) .

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