

# A CLINICAL STUDY OF 123 CASES OF PUERPERAL AND POST ABORTAL THROMBOPHLEBITIS

by

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In view of majority of abortions and confinements being managed by untrained hands, it is not surprising that sepsis is responsible for 14-20% of maternal deaths in India. Cerebral thrombophlebitis with its dramatic clinical course and high mortality has attracted a great deal of attention, while deep vein thrombophlebitis though more common and responsible for prolonged morbidity is rarely reported excepting as its extreme rare form "Phlegmasia cerulens dolens". 13.1% of cases admitted as puerperal sepsis in this hospital had clinical signs of thrombophlebitis.

## Material and Methods

The study includes retrospective review of 72 cases of femoral and 51 cases of cerebral thrombophlebitis following parturition or abortion. These cases were admitted in Lady Hardinge Medical College and Smt. S.K. Hospital. In 16 cases, the preceding obstetric event had occurred in the hospital itself. During this 7 year period, there were 80,236 obstetric admissions and 44,200 deliveries.

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## Observations

**Incidence:** During the 7 year period there were total 923 (1.2%) cases admitted for puerperal sepsis, out of which 123 cases were admitted for thrombophlebitis, an incidence of 1 in 666 of obstetric admissions. Out of 44,200 confinements conducted in hospital it was noted in 14 cases, an incidence of 1 in 3157 confinements. 50.3% of confinements were emergency admissions.

Remaining 107 cases had delivery or abortion conducted by untrained attendant outside.

## Age and Parity

There were more patients below 20 years and above 30 years of age in thrombophlebitis group as compared to age distribution in other parturients in the same hospital. 39.5% of thrombophlebitis cases were primipara and 10.9% were of parity above 4. Primipara constitute only 24.3% of hospital confinements.

## Anaemia

Anaemia is a significant observation in these cases, it may be chronic pre-existing or a result of extra blood loss during parturition. Forty-two cases (33.3%) had hemoglobin between 6.0-8.0 gm. per cent;

18 (14.6%) had hemoglobin below 6.0 gm.% and only 16 (12.6%) had hemoglobin above 10.0 mg.%.

#### Site

Out of 72 leg thrombophlebitis, right side was involved in 20 and left in 46. Bilateral involvement was noted in 6 cases.

#### Delivery/Symptom Interval

Symptoms of cerebral thrombophlebitis present early, as high as 90.5% came within 15 days of preceding delivery or abortion, while only 52.3% of deep vein thrombosis of leg developed symptoms within 15 days; 88.4% within one month and as high as 11.6% developed symptoms of thrombophlebitis one month after delivery (Table I).

*Hospital Stay:* Cases of cerebral thrombophlebitis naturally require a shorter stay, either they die or with initial rapid recovery of consciousness they leave hospital against medical advice. 50% of femoral thrombophlebitis required hospitalization longer than 15 days compared to only 20.2% of cerebral thrombophlebitis. Nine cases of femoral thrombophlebitis were in hospital for more than 30 days (Table I).

*Mortality:* During this 7 years period there were total 407 maternal deaths giving an incidence of 9.2/1000 deliveries and about 5/1000 obstetric admissions. 76 (18.6%) of maternal deaths were due to puerperal sepsis.

There were 13 deaths in the present group a mortality of 10.5%, but all fatal cases had clinically cerebral thrombophlebitis giving a mortality of 25.5% (13 in 51) for cerebral thrombophlebitis. Two cases had a preceding history suggestive of deep vein thrombosis of leg. This would give a mortality of 2.8% in cases of deep vein thrombosis of leg.

#### Hospital Cases

Out of 16 hospital cases 5 had preceding operative procedures including evacuation in 2. Among 14 post delivery cases, 1 had internal podalic version, 1 had forceps extraction and one followed post partum sterilization. Out of these 4 had gross signs of intrapartum sepsis and 5 had hemoglobin below 8.0 gm.%.

#### Comments

Trauma, necrosis and sepsis associated with labour are most important contributing factors towards deep vein thrombosis, though hypercoagulability and venous stasis are present during pregnancy also, thrombosis is rare during pregnancy.

It is unusual prolongation of labour and superadded heavy dose of infection that leads to thrombophlebitis as is suggested by high incidence of young primipara with confinement conducted at home in the present review. They belong to low socio-economic group and have pre-existing anaemia.

TABLE I  
Delivery-symptom Interval and Hospital Stay in 72 Cases of Femoral Thrombophlebitis

	0-15 (days)	16-30 (days)	30-60 (days)	More than 60 (days)
Delivery symptom interval	52.3%	36.1%	4.7%	6.9%
Hospital stay	50.0%	39.5%	9.5%	2.2%

Though 50.3% of our hospital confinements are unbooked emergency admissions, often potentially infected, thrombophlebitis was noted in only 14 out of 44200 confinements, an incidence of 1 in 3157. The present incidence is of 666 obstetric admissions which corresponds to that reported by Aaro and Juergens (1971) though sepsis is more prevalent.

Lower incidence of thrombophlebitis could be due to more confinements at younger age, higher age significantly predisposes to thrombosis (Jeffcoate *et al*, 1968). Varicose veins are also infrequently observed in Indian pregnant women, occurring mostly after the age of 30 years (Aggarwal, 1978).

Stewart (1975) have shown that extensive cell death in one part of the body causes leucocyte adhesion and migration in medium sized veins in another part of body. Thrombosis without primary endothelial damage is explained on the basis of migration of leucocytes from the lumen of the vessel, their entrapment between endothelium and basement membrane and desquamation of endothelium. The stasis in the vein helps in establishing a chemotactic gradient which helps migration of leucocytes.

Recent studies using scanning electron microscope suggest that changes and damage to the endothelium may occur as a result of local stasis and tissue trauma at a distant site—the factors present in most abnormal obstetric cases. The majority of cases of thrombosis start in the calf, 78% of these remaining localised to calf lyse spontaneously but the remaining 22% extend into popliteal and more proximal veins (Kakkar and Nicolaidis, 1969). Most cases when admitted as puerperal thrombophlebitis are those of proximal deep vein thrombophlebitis.

Puerperal femoral thrombophlebitis, not only causes immediate prolonged morbidity varying from 2-6 months from delivery, but these cases may come back with post thrombotic syndrome later in life. In 41% cases of post thrombotic syndrome in Sweden preceeding cause was found to be obstetric (Gjore, 1950).

Cerebral thrombophlebitis in present study as well as in the series reported by Balani *et al*, 1967 is associated with 25% mortality.

Treatment is essentially medical, most of the cases had long acting anticoagulants in early acute cases and may require vasodilator for vascular spasm.

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