

THROMBO-EMBOLIC DISEASE IN OBSTETRICS

(Review of Cases for the Year 1957 inclusive of Necropsy Findings
in a Case of Superior Sagittal Sinus Thrombosis)

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Thrombosis is said to be seen in 10 to 20 per cent of autopsies on patients dying of all causes. Alarmingly high incidence of this morbid process is recognised in post-operative and post-delivery cases. In case thrombosis is not detected early and treated quickly, it proves fatal owing to the onset of pulmonary or cerebral embolism as sequelae. Thrombo-embolic disease thus poses great diagnostic problems unless the existence of the condition is kept in mind. Obstetricians frequently remind us of the high incidence of thrombosis in post-delivery cases. The markedly enlarged uterus during pregnancy produces some compression of iliac veins. This leads to venous stasis and varicosities of the veins of the legs. Concomittantly marked dilatation and congestion of the pelvic veins augment the vascular stasis in this area. Post-delivery confinement to bed and qualitative and quantitative changes in the platelets and plasma provide a group of circumstances that predispose to phlebo-thrombosis in

the legs and pelvic veins. Sometimes the clotting appears to be associated with some underlying inflammation within the veins of legs, accounting for phlebothrombosis. Anaemia, poor nutritional state and systemic disease favour the onset of thrombosis.

Anti-coagulants and anti-biotics in recent years have brought in revolutionary change in the prophylaxis and treatment of thrombo-embolic disease. Obstetricians all over the world are convinced that adequate anticoagulant therapy supplemented by antibiotics and paravertebral block wherever indicated reduces the period of stay in hospital of cases of puerperal thrombosis and further prevents or arrests the onset of the much dreaded pulmonary or cerebral embolism. The negligible mortality recorded by Burns in obstetric and gynaecological cases, manifesting thrombo-embolic phenomenon, treated with adequate anticoagulant and antibiotic drugs bears ample testimony to this fact. The urgent necessity for the establishment of special

treatment centres in general hospitals and maternity clinics for thrombo-embolic disease need hardly be stressed. At these centres adequate laboratory facilities must be made available for periodic determinations of prothrombin, coagulation or other tests for controlling anti-coagulant therapy. The lead given by the clinicians in the United States of America and the United Kingdom in this direction will be followed by the clinicians in this country. This has prompted us to review the cases of thrombo-embolic disease registered at the Obstetric Clinic, Government General Hospital, Guntur, for the year 1957 with the sole object of reducing the high mortality observed.

Fourteen cases of thrombo-embolic disease were registered at the Obstetric Clinic, Government General Hospital, Guntur, in 3,579 obstetric admissions for the year 1957, giving a percentage incidence of 0.39. Burns reported 51 cases of thrombo-embolic disease from the Temple University Hospital for three years and this formed 0.64 per cent of the obstetric admissions. In our series unusually high incidence of cerebral thrombosis and pulmonary embolism was noticed (Table 1). This again accounted for the high mortality rate in our series as against the single death recorded by Burns in 51 cases of thrombo-embolic disease. Puerperal infection, as indicated by offensive lochia and raised temperature of the patients, preceded thrombo-embolic episodes in the majority of our cases. Cerebral vein thrombosis, recognised in our cases, is primary. Clinicopathological findings observed in one such case are recorded below.

Case Report of Sagittal Sinus Thrombosis

K. M., female aged 35 years, was admitted in a moribund condition under Dr. Siddique in Government General Hospital, Guntur, for hemiplegia and fever. She delivered five months prior to admission to the hospital. Patient did recover from similar paralytic attack following previous delivery. Physical examination confirmed upper motor neurone lesion. Cerebrospinal fluid findings were not contributory. V.D.R.L. was positive in two dilutions. Clinical diagnosis of tuberculous meningitis was made. The patient manifested recurrent fits and expired.

Necropsy Findings including Morbid Histology

Most interesting autopsy findings were confined to the brain. The sagittal sinus contained a cord-like thrombus, almost occluding its lumen (Fig. 1). The nature of the thrombus was confirmed on histological examination (Fig. 2). The right cerebral hemisphere showed subarachnoid and cortical haemorrhages (Fig. 3). Sectioned surface of the same revealed extensive nature of the haemorrhage (Fig. 4). The left cerebral hemisphere showed over its antero-superior surface an area of depression indicating loss of brain substance and subsequent gliosis (Figs. 4 & 5).

In both the lungs tuberculosis with cavitation was found. Nothing contributory was observed in other organs.



Fig. 1
Photograph shows sagittal sinus dissected out enclosing the coiled thrombus.

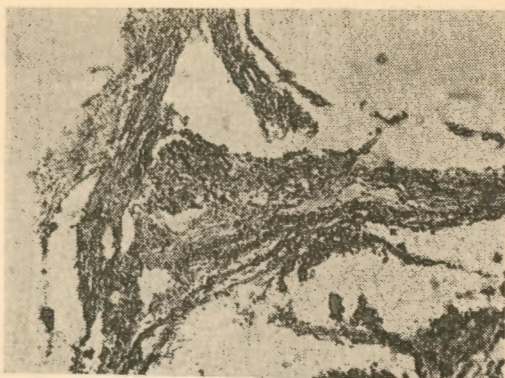


Fig. 2
Photomicrograph illustrates thrombus in a segment of the sagittal sinus. (H & E X 60).

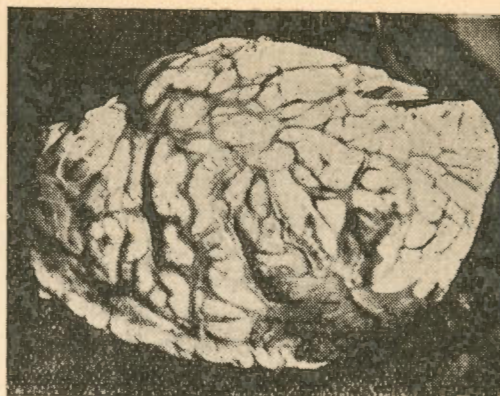


Fig. 3
Photograph shows lateral surface of the brain depicting the uneven supero-medial surface due to organising infarct.



Fig. 4
Sectioned surface of the brain shows massive cerebral haemorrhage due recent thrombosis of the sagittal sinus.

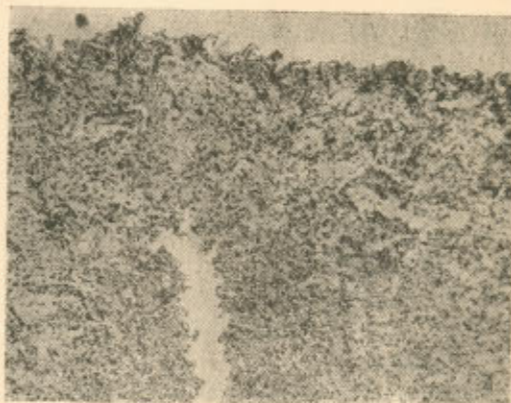


Fig. 5
Photomicrograph shows gliosis in an area of old infarct. (H & E X 60).

Comment

Puerperal thrombosis may occur in antepartum or post-partum period. Some believe in prophylactic administration of anticoagulants to prevent the onset of puerperal thrombosis. Dubois, while reviewing 41 cases of cerebral thrombosis, drew

attention to trigeminal neuralgia, headache, convulsions, unconsciousness and parasthesias as prodromal phenomena of this condition. We presume that the gliosis observed in the left cerebral hemisphere in our case indicates organised thrombotic lesion which caused minimal clinical manifestations. The sagittal sinus throm-

basis that followed five months after delivery accounted for the extensive damage of the right cerebral hemisphere and consequent hemiplegia over the left side. Although many have recorded puerperal thrombosis as late as the forty-fifth day of post-delivery period, we feel that it could occur even later when factors like debility and chronic infective conditions co-exist to promote the formation of thrombus, as in our case.

Summary

1. Literature on thrombo-embolic disease in obstetrics is briefly reviewed.
2. Clinical diagnosis of thrombo-embolic disease is rarely difficult.
3. Thrombo-embolic disease formed 0.39 per cent of obstetric admissions in Government General Hospital, Guntur. The high mortality in the series is attributed to high incidence of cerebral thrombosis and pulmonary embolism.
4. Anticoagulant and antibiotic therapy is suggested in all these cases.
5. Necropsy findings in a case of superior sagittal sinus thrombosis are recorded.

Acknowledgment

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References

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 Dubois J.: *Gyn. & Obst.*; 55, 472-493, 1956.

Table 1

Site of Incidence of Thrombo-embolic Disease Registered at the Obstetric Clinic, Government General Hospital, Guntur.

Site of lesion	Lower limb thrombosis	Cerebral thrombosis	Pulmonary embolism
Number in each	*6	5	2

* In one both the limbs were affected.

Table 2

Site of Incidence of Thrombo-embolic Disease Recorded by Burns.

Site of lesion	Number in each
Calf	23
Calf and femoral	19
Pelvis	7
Pulmonary embolism	1
Total	50

Salient Clinical Findings in Cases of Thrombo-embolic Disease Registered at The Obstetric Clinic, Government General Hospital, Guntur, for the Year 1957.

Serial number	Age in years & parity	Salient clinical findings	Remarks
1	22, III.	Eighth day of puerperium patient developed fever and painful nodules over the lower limbs.	Phlebothrombosis lower limbs.
2	25, III.	Tenth day of puerperium patient developed fever and painful swelling of the left lower limb.	Patient showed the left lower limb.

Serial number	Age in years & parity	Salient clinical findings	Remarks
3	25, VIII.	Twentieth day of puerperium patient developed fever and oedema of left lower limb.	-do-
4	30, V.	Twenty-fifth day of puerperium patient manifested paresis of the left limbs with oedema of the left lower limb.	Cerebral embolism and phlebothrombosis lower partial improvement.
5	20, V.	Seventh day of puerperium patient developed fever and swelling of the left leg. The patient recovered completely.	Phlebothrombosis lower limb.
6	25,	Fifteenth day of puerperium patient developed fever and painful swelling of the right leg.	Phlebothrombosis of right leg.
7	20, II.	The patient was in labour for some hours and complained of pain in the chest and coughed out blood. For cephalo-pelvic disproportion caesarean section was done. Basal congestion of lungs noticed and the patient vomited blood and expired.	Pulmonary embolism.
8	18, Primi.	Eleventh day of puerperium patient developed oedema of feet. Ten days later noticed pain in the back and chest and became dyspnoeic. Basal congestion was observed and half an hour after this episode the patient expired.	Pulmonary embolism.
9	30, VI.	Twenty-fifth day of puerperium patient manifested convulsions and paralysis of the left limbs with positive Babinsky sign. C.S.F. findings were equivocal. Patient was febrile.	Thrombosis of cerebral veins was diagnosed.
10	19, Primi.	Third day of puerperium patient developed fever and fits. Manifested signs of pyramidal tract lesion. Patient expired. C.S.F., showed 57 lymphocytes c.m.m.	Cerebral vein thrombosis was suspected.
11	25, VI.	Twenty-first day of puerperium patient developed left sided hemiplegia with convulsions. C.S.F. findings were nil contributory. Patient recovered remarkably.	Cerebral vein thrombosis.
12	20, II.	Thirteenth day of puerperium patient developed fits with fever and paralysis of the left limbs. Fits recurred. Patient expired.	Cerebral vein thrombosis.
13	19, II. Remarks Remarks	Eighth day of puerperium patient developed headache, pain in the neck and fits. This was followed by paralysis of the left limbs. The patient expired soon after admission into the hospital.	Cerebral vein thrombosis.