

Persistent Thrombocytopenia Due to Scrub Typhus

A 5 year old girl presented with fever for 7 days with no history of myalgia, joint pains, gastro-intestinal symptoms and bleeding tendencies. She was sick, febrile (102°F), tachypneic (RR-52/min), and had a pulse rate of 124/min and BP of 100/68 mm Hg. She had conjunctival suffusion but no lymphadenopathy, rash or eschar. Systemic examination was unremarkable except for hepatomegaly of 3 cm and spleen of 1cm. Laboratory tests were as follows: Hb 11g/dL, TLC $4.6 \times 10^3/\text{mL}$ with normal differential count, platelets $21 \times 10^3/\text{mL}$, ESR 50 mm and haematocrit 30%. Other investigations revealed SGOT 201 U/L, SGPT 124 U/L and blood sugar 88 mg/dL. Blood urea, creatinine, electrolytes, total proteins and albumin levels were normal. Chest X-ray, ultrasound abdomen and thorax were also normal. In view of conjunctival suffusion, tachypnea and thrombocytopenia, a differential diagnosis of dengue, leptospirosis and typhoid was made. Child received IV fluids, oxygen and parenteral ceftriaxone. Her blood and urine culture was sterile. Serology for typhoid, leptospira, dengue and QBC for malarial parasite were negative. She remained febrile even after 6 days of IV ceftriaxone and her platelets remained persistently below $50 \times 10^3/\text{mL}$. Her HIV, Weil-Felix, Paul Bunnell and Brucella tests were negative but immunochromatography test (both IgM and IgG) for scrub typhus was positive. She received oral doxycycline and became afebrile in next 36 hours. Her platelets rose to $96 \times 10^3/\text{mL}$ by 4th day and $360 \times 10^3/\text{mL}$ by 8th day and she was discharged.

Scrub Typhus is caused by *Orientia tsutsugamushi* and very few reports are available in children from India [1,2]. The case fatality in untreated may be as high as 10% [2]. Out of 5 children, none had rash or eschar in a report from

India, and typical rash and eschar may not be always present [1,2]. In another study from Thailand 7 out of 73 children with scrub typhus only 7% had skin rash and eschar and only 19% had thrombocytopenia [3]. Distinguishing scrub typhus from other acute febrile thrombocytopenic illnesses like enteric fever, malaria, dengue in tropical countries is usually difficult. In malaria, associated anemia in a non toxic child gives clue. In enteric fever, GIT symptoms in a toxic child with leucopenia and eosinopenia will help. Dengue will have characteristic rash, retro-orbital pain, myalgia, bleeding tendencies with increased haematocrit and raised liver enzymes. Watt, *et al.* [4] noticed that hemorrhagic manifestations, low platelet count ($<140,000/\text{mm}^3$) and low WBC count ($<5,000/\text{mm}^3$) were strongly associated with dengue when compared to Scrub typhus in adults [4]. Our child also had low WBC count ($4600/\text{mm}^3$), severe thrombocytopenia ($21000/\text{mm}^3$), raised liver enzymes similar to dengue. Therefore a high index of suspicion is important as scrub typhus is treatable with easily available antibiotics.

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Retracted Nipples

We disagree with Satpthy and Nanda [1] and Gupta and Kumar [2], that the new method described by Rathi and Mandaliya [3] is culturally and/or socially unacceptable and/or against the research ethics and/or injustice to women, being a vulnerable group.

There are 5 parameters to assess, whether it is really so or not? These are: Whether:

- (i) Message providers are responsible and mature adults?
- (ii) Message recipients are responsible and mature adults?
- (iii) Is the aim holy and beneficial?
- (iv) Is there any publicly indecent/vulgar exhibition (e.g. video demonstration etc. as in family welfare programs) planned in the transmission of the message? and
- (v) Has there been alike method in practice in past/present? and if yes, what were the consequences/reaction of society at large?

The answers are a definite YES to (i, ii and iii) and a very clear NO to (iv). Regarding (v), for decades our obstetrician colleagues have been advising, that on which days and how frequently coitus is to be done, in the management of anovulatory infertility, with drugs like clomiphene. Moreover some sort of mental and physical relaxation/drugs before the act are also prescribed, with an advice to remain lying down relaxed for sometime after the act with pelvis lifted up. If that is okay, and has been accepted as a beneficial and essential healthy practice by society at large, we feel that objections to this new method, (when taken with an appropriate and healthy thinking, which one should) are unfounded. It can be advised freely, of course, only whenever necessary.

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Avascular Necrosis of Hip Following Combined Protein C and Protein S Deficiency

The usual predisposing factors for avascular necrosis of femoral head are immobilization, prolonged steroid use, oral contraceptives, and sickle cell anemia [1].

A seven year old girl presented with severe pain in left lower leg for six days following a trivial fall. The patient was admitted in the past to the same institute with features of deep vein thrombosis and after extensive investigations was diagnosed to be having protein C and protein S deficiency. During that episode, the patient was managed with low molecular weight heparin, fresh frozen plasma in the acute stage and was discharged with advice of oral anticoagulant warfarin to maintain INR around 2.5 [2]. She stopped medication after a few days and was lost to follow up. She came with the above features after six months. On examination, the patient had fever and restriction of movement of left hip joint. There was no swelling of that limb or venous engorgement unlike the previous episode [2]. Homan's sign was negative. Peripheral arterial pulses were normal.

As the patient was a known case of thrombophilia due to protein C and protein S deficiency, ultrasonography of left thigh was done to rule out recurrence, which was normal. X-ray of the left hip joint showed avascular necrosis of the left femoral head. MRI of that joint confirmed the diagnosis. Protein C and Protein S levels during this episode were 52 units/ml (N 67-195 units/mL) and protein S was 28 units/mL (N 55-123 units/mL),

respectively. The patient was put on oral warfarin and referred to our orthopaedic colleagues.

The association between osteonecrosis of the femoral head and thrombophilia was first postulated by Glueck in 1994 [3]. Levin, *et al.* [4] described Legg-Calvé-Perthes disease associated with protein C deficiency and beta-thalassemia major in two children among a cohort of 79 beta-thalassemia patients treated. Other recent literature also suggest an association [4]. However, in a recent meta-analysis published in 2008, the authors' concluded that there were insufficient evidence to support the hypothesis that protein C deficiency is associated with Perthes disease but it may play an important role in the etiopathogenesis of avascular necrosis of the femoral head in childhood [5].

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