

PLASMODIUM FALCIPARUM & SALMONELLA TYPHI CO- INFECTION AMONG PREGNANT WOMEN IN ABAKALIKI, EBONYI STATE NIGERIA

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ABSTRACT

Intestinal sickness and typhoid fever are both endemic in the tropics and pregnant ladies constitute one of the high hazard gatherings. This investigation was done to decide the rate of jungle fever typhoid co-disease in pregnant ladies going to antenatal facilities in Federal Teaching Hospital, Abakaliki, Ebonyi State Nigeria. About 120 volunteer pregnant ladies were selected amid routine antenatal. Jungle fever contamination was dictated by subjective immunodiagnostic measure and affirmed by infinitesimal examination of thick and thin giemsa recolored slides. Typhoid disease was controlled by Widal agglutination strategy and affirmed by stool culture. Out of 120 pregnant ladies examined, 49 (40.8%) were certain for jungle fever parasite and similarly had noteworthy titre of salmonella anti-infection agents. Of the 120 feces tests refined 29 (24.2%) were certain for salmonella. Accordingly, the general rate of intestinal sickness typhoid co-disease was 12.5% by both Widal agglutination and stool culture strategies. The co-contamination of intestinal sickness and typhoid in pregnancy profoundly affects unfriendly pregnancy result. We advocate for routine screening and treatment of tainted pregnant ladies.

KEYWORDS: Co-disease, Malaria and Typhoid, Pregnant Women, Ebony State, Nigeria

INTRODUCTION

Jungle fever and typhoid fever (caused by plasmodium falciparum and salmonella spp separately) are the two ailments of general wellbeing significance which are endemic in both tropical and subtropical nations including Nigeria. The relationship amongst typhoid and intestinal sickness was first depicted in medicinal writing amidst the nineteenth century by the United States Army and was wrongly called "typho-jungle fever" (Smith, 2002). Late investigations in Africa appear to certify the connection amongst intestinal sickness and typhoid fever (Ammahetal., 2009). It is essential that the financial and natural condition that have a tendency to support high pervasiveness of jungle fever in endemic regions likewise support the transmission of salmonella typhi, the causative specialist of typhoid fever. (Prasannaetal., 2011)

The World Health association has evaluated that in 1995, 219 million instances of intestinal sickness were recorded with around 1.2 million passings (Brabin 1983). Intestinal sickness contamination frequently gives migraine, fever, shuddering, arthralgia (joint torment), heaving, hemolytic frailty, jaundice, hemoglobinuria and retinal harm (Brabin, 1983; Gills et al., 1999). Intricacies of intestinal sickness include respiratory pain, which

happens in up to 25% of grown-ups and 40% of youngsters. Intense Respiratory Distress Syndrome (ARDS) may create in 5-25% in grown-ups and up to 29% of pregnant ladies, despite the fact that it is uncommon in youthful kids (Isibor, et. al., 2011).

Pregnant ladies are particularly defenseless against intestinal sickness contamination. In Sub-Sahara Africa, maternal jungle fever is related with up to 200,000 evaluated newborn child passings yearly (Isiboretal., 2011).

Typhoid fever is viewed as a specific hazard in pregnancy on account of lessened peristaltic movement in the gastro-intestinal and biliary tracts and expanded predominance of biliary "slime" (Bashyametal., 2007).

MATERIALS AND METHOD

Region

The investigation was done at the antenatal facility, Federal Teaching Hospital, Abakaliki, Ebonyi State.

Study populace

The examination included pregnant ladies who had fever when of their visit to the doctor's facility.

Test accumulation

Intravenous blood test (5ml) was gathered from every member. The examples were put away in fridge after accumulation and were handled inside six hours. Feces tests were likewise gathered from members utilizing clean widespread holders.

Assurance of jungle fever disease

This was completed utilizing antigen Rapid Test Device technique and additionally Giemsa recolored thick and thin blood spread for minuscule recognition of *P. Falciparum*. The two methodology were done as depicted by Cheesbrough, (2002).

Widal test

Widal agglutination test was performed on all intestinal sickness positive blood tests utilizing business antigen suspension and the method was as portrayed by the maker.

Additionally stool culture was done to additionally affirm *S. Typhi*. 10ml of selenite-F soup was added to 3g of the feces test and blended overwhelmingly, and after that hatched at 37oc for 24hours. From that point, a loopful of the example was vaccinated onto salmonella-stigella agar medium and hatched at 370c for 24 hours to get tactful provinces (Lactose fermenters were affirmed by pink states on SSA). The states were Gram recolored and additionally subjected to biochemical investigation.

RESULTS

Out of the 120 pregnant ladies at their diverse phases of pregnancy that took part in this present investigation, 49 (40.9%) were sure for jungle fever, while 29(24.2) tried positive for *S. typhi*. Intestinal sickness disease was most elevated amid the principal trimester (16.7%) while *S. typhi* was more predominant amid the third trimester. The general intestinal sickness and typhoid fever co-disease demonstrated a pervasiveness of 12.5% (see table 1).

Table 1: prevalence of *P. falciparum* and *S. typhi* among women in different stages of pregnancy

Stages of pregnancy	N0 examined	<i>P. falciparum</i>	<i>S. typhi</i>	Co-infection
1 st trimester	40	20(16.7%)	8(6.7%)	5(4.2%)
2 nd trimester	30	11(9.2%)	6(5%)	4(3.3%)
3 rd trimester	50	18(15%)	15(12.5%)	6(5%)
Total	120	49(40.9%)	29(24.2%)	15(12.5%)

Table 2 and 3 below shows the comparative methods employed during this study. Both RDT and Microscopy methods were considered desirable as they gave positive result *P. falciparum* at all stages. Similarly, both widal test and culture methods gave confirmatory positive results for *S. typhi*.

Table 2 comparative test for malaria using rapid diagnostic test and microscopy.

Stage of pregnancy	RDT (%)	Microscopy (%)	Number examined
1 st	20(16.7)	20(16.7)	40
2 nd	11(9.2)	11(9.2)	30
3 rd	18(15)	18(15)	50
Total	49(40.9)	49(40.9)	120

Table 3 comparative Test for S. typhi by the widal and culture methods

stages of pregnancy	Widal (%)	Stool culture (%)	Number examined
1 st	8(6.7)	8(6.7)	40
2 nd	6(5)	6(5)	30
3 rd	15(12.5)	15(12.5)	50
Total	29(24.2)	29(24.2)	120

DISCUSSION

Intestinal sickness and its co-disease with typhoid fever is a noteworthy general medical issue in pregnant ladies in Nigeria. The jungle fever predominance rate of 40.9% saw in the present examination proposes high endemicity and transmission of intestinal sickness parasite. The high commonness proposes expanded helplessness of pregnant ladies to jungle fever contamination regularly because of prompted immunosuppression (Ndukaetal., 2006). The high predominance could likewise be credited to absence of satisfactory preventive measures being embraced by the pregnant ladies. Pregnant ladies in their first trimester were more contaminated with jungle fever as recorded in this investigation and this was in accordance with the prior discoveries of Ukibeetal., (2008). This could attributed to the nonattendance of medicinal office or the powerlessness of the pregnant ladies to enlist for antenatal on time.

The predominance of jungle fever typhoid co-contamination among the pregnant ladies going to antenatal center in this investigation was 12.5%. This is similar to past reports (Akinyemietal., 2007; Prasanna, 2011). The watched commonness recommends that typhoid fever is a typical co-disease in jungle fever contaminated ladies in this piece of the nation. The lessening of cell and humoral invulnerability which happens in pregnancy renders pregnant ladies defenseless to different contaminations including typhoid fever (Scholarpurka, etal., 2000). Jungle fever tainted pregnant ladies are said to be more inclined to typhoid fever as a result of the expanded heamolysis in intestinal sickness which is said to build the accessibility of iron in the tissue particularly the liver and salmonella species are accepted to flourish more in press rich tissues (Kaye and Hook, 2003). It is relevant to take note of that both typhoid and jungle fever in pregnant ladies give administration issues since most medications utilized as a part of the treatment of the two infections are contra-shown in pregnancy. Additionally the two sicknesses have been related with pregnancy results, for example, untimely conveyances, unconstrained premature births, low birth weight and intra-uterine fetal passings (Nasemetal., 2008).

The transmission of *P. falciparum* and *S. Typhi* is influenced by natural factors, for example, poor ecological sanitation, poor lodging and deficient safe water supply. This could be purpose behind the high commonness since dominant part of the pregnant ladies were provincial tenants. Te utilization of bug spray treated net, safe water

supply and individual cleanliness and additionally early enlistment for antenatal facility of pregnant ladies are upheld.

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