1676. Incidence and Outcomes of Pulmonary Involvement in Patients with Scrub Typhus: A Clinical Study from India

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Session: 164. Stepping off your Doorstep - Global Health
Friday, October 4, 2019: 12:15 PM

Background. Scrub typhus is a tropical fever caused by orrientia tsutsugamushi and is probably the most under-recognized of all the febrile illnesses leading to hospitalization, especially in India. Although the most common presenting symptoms are fever, myalgia, lymphadenopathy and rash, a significant percentage of patients also present with respiratory complaints.

Methods. December 2018 at a tertiary care center, in Delhi, India. The primary objective was to determine the incidence of respiratory involvement in patients with scrub typhus on the basis of radiological findings. Secondary objective was to compare the length of hospital stay, clinical presentation, and severity of illness as indicated by transaminisits, thrombocytopenia, and lactate levels. Also compared was the difference in mortality between the two groups.

Results. Pulmonary involvement was seen in 28.9% (22/76) patients which included varied radiological pictures. 5 patients required mechanical and 2 noninvasive ventilation. Eschar was seen in 44.7% out of which 20 had pulmonary involvement. Patients with pulmonary involvement had a significantly greater length of hospital stay (5.82 days vs. 2.56, P < 0.001), more severe transaminisits (P = 0.001), thrombocytopenia (P < 0.001), hyperlactatemia (P < 0.001), higher ionotropic requirement (P < 0.001) and mortality (P = 0.006).

Conclusion. Pulmonary involvement was seen in one-third of the patients with scrub typhus and was associated with higher morbidity and mortality. These patients were sicker, often required intensive care admissions, inotropic support, noninvasive and invasive mechanical ventilation and a significantly prolonged hospitalization. Children should be a part of routine evaluation of all patients suspected to have scrub typhus. With such high pulmonary involvement, scrub typhus forms an important differential diagnosis in patients with lung infection residing in endemic areas and in those with a history of travel to such areas.

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1677. Prevalence and Patterns of Outpatient Antibiotic Prescription at a Public Tertiary Medical Center in Southern Province, Sri Lanka

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Session: 164. Stepping off your Doorstep - Global Health
Friday, October 4, 2019: 12:15 PM

Background. Global Health

Methods. The study was conducted at the Outpatient Department (OPD) of the largest public tertiary care center in Southern Province, Sri Lanka. This is a free walk-in clinic serving upwards of 1,000 patients per day. Adult and pediatric OPD OPD patients were recruited for a cross-sectional survey in February–April 2019. Pre-visit and post-visit questionnaires were verbally administered to obtain information regarding participants’ demographics and presenting illness. The OPD pharmacy’s electronic prescribing system was queried to calculate the prevalence of antibiotic prescriptions among enrolled patients. Logistic regression was performed to identify features associated with antibiotic prescription.

Results. Of 408 patients surveyed, 246 (62.9%) were female and 88 (21.7%) were children <18 years, Median age was 38 (IQR 19–54) years, and median duration of illness at enrollment was 7 (IQR 3–30) days. Medications were prescribed for 291 (72.4%) patients during the OPD visit, with 146 (35.8%) of all patients receiving an antibiotic. The most frequently prescribed antibiotics were amoxicillin (41, 28.1%), first-generation cephalosporins (38, 26.0%), and ampicillin/clavulanate (30, 20.5%). The most frequent chief complaints among antibiotic recipients were cough (35, 24.0%), rhinorrhea/congestion (26, 17.8%), and fever (18, 12.3%). Diagnostic investigations were ordered for 38 (26.0%) antibiotic recipients. On bivariable analysis, younger age (P = 0.01), shorter duration of illness (P < 0.001), and lack of prior evaluation (P = 0.001) were positively associated with antibiotic prescription.

Conclusion. We show a high prevalence of outpatient antibiotic prescription despite limited diagnostic evaluation at a tertiary medical facility in Southern Province, Sri Lanka. Antibiotic stewardship efforts, especially targeting respiratory illness, may help improve antibiotic use in this setting.

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1678. Assessing Performance of Multiple Methods for Measurement of Body Temperature, Bangladesh

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Friday, October 4, 2019: 12:15 PM

Background. CDC and icddr,b are conducting an acute febrile illness (AFI) research project in four hospitals in Bangladesh. Enrolled subjects have measured fever of ≥100.4°F. To determine the most-sensitive temperature measurement method, we collected multiple measurements on patients with fever history between March and June 2019.

Methods. Patients were screened in outpatient departments of four hospitals in Bangladesh between March 7 and April 15, 2019. Screening used at least two of three methods: tympanic, oral, or axillary. Records were consolidated using Microsoft Excel and analyzed by authors. The correct body temperature was measured by different methods for each patient. For records with all three measures, we calculated the likelihood of meeting AFI inclusion criterion of ≥100.4°F (38°C) by measurement method.

Results. 3,060 subjects were enrolled. The highest correlation among measurement methods was between axillary and oral (r = 0.882, 95% CI 0.688–0.895). The lowest correlation was between tympanic and oral among children in Hospital 1 (r = 0.98, 95% CI 0.92–1.00), while the lowest was axillary to tympanic for adults in Hospital 3 (r = 0.71, 95% CI 0.65–0.77). 882 subjects (334 pediatric, 548 adult) were assessed using all three measurement methods. 313 (159 pediatric, 154 adult) met AFI inclusion criterion by at least one method. From 49% to 53% of subjects by two or three methods (table). Results in the same subject were compared for children and adults.

Conclusion. Accurate measurement of body temperature is essential for AFI surveillance, but literature on methodology is limited. We demonstrate that multiple methods of measured increase detection of febrile patients. The most sensitive combination was oral and tympanic. Axillary measurement did not improve detection.

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1679. Brucellosis in rural Narok County, Kenya: A Retrospective Review

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Background. It is well-documented that the country of Kenya is confronted with a heavy burden of brucellosis, presumably related to consumption of unboiled or fermented milk products (maziwa laala). As a developing country, epidemiologic data defining the prevalence of brucellosis is incomplete and particularly lacking in rural areas of the country. The objective of this study was to establish the rate of brucellosis in patients seen in a rural health clinic in Narok County, an area which has not been previously studied.

Methods. This study was performed at the Ewaso Ngiro Health Center, Narok County, Kenya, which serves a catchment area of 6,573 citizens. A retrospective chart review was conducted for 241 patients seen in December 2018 for acute visits. Medical records were reviewed for evidence of joint pain and other symptoms of brucellosis at the time of presentation and for brucellosis antigen testing results.

Results. Of the 241 patient charts reviewed, 78 (71 adult, 7 pediatric) patients had joint pain. Of the 71 adult patients, 21 were male and 49 were female (1 with no gender recorded). 50 patients had Brucella testing performed via serum agglutination, and yielded 14 positive results (13 adult, 1 pediatric). Confirmed brucellosis accounted for 5.8% of all acute visits in December 2018, and 26% of patients presenting with joint pain. In patients with confirmed brucellosis, the average age was 50.2 years (ranging 15–80). There were 16 female cases, 5 male, 1 with gender not recorded. Generalized joint pain was the most common complaint (n = 14), followed by back (n = 6), knee (n = 1), and neck pain (n = 1).

Conclusion. The prevalence of Brucella disease in rural areas of Kenya, specifically Narok County, is not well studied. This study provides insight into the prevalence of brucellosis and shows that over 25% of patients presenting with joint pain, have brucellosis. Furthermore, 5.8% of all patients seen at the Ewaso Ngiro Health Center during the study period had brucellosis and the overall prevalence of disease in patients seen at other hospitals was tested specifically for brucellosis (n = 50), was 28%. This study provides preliminary evidence of a heavy burden of Brucella disease in Narok County and suggests that a follow-up study in this area is warranted to be defined the true prevalence of disease over a longer time frame.

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