may be a viable option when RV-c must be done to reach timely RV-c-PEP treatment and avoid hypersensitivity reactions.

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307. Could We Predict Severe Rickettiosis?
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Background. Rickettiosis has long been considered as a benign affection. Pathologic mechanisms and prognosis factors of severe forms are incompletely decrypted. In this perspective, we aimed to determine the predictive factors of a severe rickettiosis case.

Methods. We conducted a retrospective and prospective study including all patients with documented rickettiosis hospitalized between 1993 and 2016. SR was defined by the presence of renal, neurological, cardiac, splenic, and/or pancreatic disorder. Cox proportional hazard regression analysis was used to reveal the independent factors affecting the prognosis of rickettiosis.

Results. We studied 336 cases of rickettiosis. The mean age was 42.4 ± 16 years and sex ratio (M/F) was 1.1. There were 73 cases with SR (21.7%). Among SR, there were renal forms in 51 cases (69.8%), neurological and/or cardiac involvement in 10 cases (13.5%) respectively. Non-severe SR in patients with SR were defined by the presence of a renal, neurological, cardiac, splenic, and/or pancreatic disorder. Cox proportional hazard regression analysis was used to reveal the independent factors affecting the prognosis of rickettiosis.

Conclusion. Severe rickettiosis, possibly due to oxidative stress, may play an important role in the pathogenesis of renal dysfunction and increased renovascular impedance in SHF and in the initiation of schistosomal nephropathy in this disease.

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309. Assessing Clinical Diagnosis of Sexually Transmitted Infections Among Women Initiating Contraceptive Implants in Kingston, Jamaica
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Background. Clinical diagnosis of sexually transmitted infections (STIs) may result in delayed treatment, increased risk of transmission, and maternal mortality. Some reports show that the use of medical and prescription services may be a viable option when RV-c must be done to reach timely RV-c-PEP treatment and avoid hypersensitivity reactions.

Methods. In order to assess potentially missed STIs, we compared clinically diagnosed STIs to laboratory-confirmed gonorrhea (GC), chlamydia (CG), and trichomoniasis (Tvag) using data and specimens previously collected for the Sino-Implant Study (SIS) in Jamaica. SIS was a clinical trial that randomized 414 women to receive a levonorgestrel implant at either baseline or three months post-enrollment, in order to evaluate unprotected sex after implant initiation. Available vaginal swab samples (N = 254) were tested for GC, CT, and Tvag by Aptima Combo 2 assay for CT/NG and Aptima Trichomonas vaginalis assay (Hologic, San Diego, CA). Clinically diagnosed STIs were categorized as cervicovaginal or vaginal, excluding herpes simplex virus, human papilloma virus and yeast infection, and were determined from medical records by assessing clinical impressions and log-binomial models fit with generalized estimating equations were used to estimate associations of clinically diagnosed STIs with laboratory-confirmed diagnoses and demographic and behavioral characteristics.

Results. Overall, 195 (76.8%) women had a laboratory-confirmed STI (CT, GC, or Tvag) while only 65 (25.6%) women had clinically diagnosed cervicovaginal or vaginal infections during the study period. Clinical diagnosis missed 79.7% of cases of laboratory-confirmed STIs: 85% of GC, 78.8% of CT, and 80.0% of Tvag. Hormonal contraception in the month prior to the study visit was associated with clinical diagnosis of cervicitis and/or vaginitis at any time point (PR: 1.65, 95% CI: 1.07, 2.54). Younger age was significantly associated with missed infections (PR: 0.98 per year increase, CI: 0.97, 1.00).

Conclusion. The prevalence of laboratory-confirmed STIs was much higher than what was captured by clinical diagnosis among the study participants. GC, CT, and Tvag were not accurately detected by this approach, particularly among younger women. Increased laboratory capacity for STI surveillance and refinement of the syndromic approach are needed.

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310. Where’s the Eschar?: Non-Eschar Cases and Eschar Distribution between the Serotypes of Scrub Typhus in Fukushima, Japan
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Background. Scrub typhus (ST) is endemic in Fukushima, where the highest number has been reported from 2006 to 2011 in Japan. Lack of the triad (fever, rash and eschar) in the clinical features of ST makes the diagnosis difficult especially with out eschar. Although genitalia or axillae must be examined carefully as overlooked eschar. Although genitalia or axillae must be examined carefully as overlooked eschar. Although genitalia or axillae must be examined carefully as overlooked eschar. Although genitalia or axillae must be examined carefully as overlooked eschar. Although genitalia or axillae must be examined carefully as overlooked eschar. Although genitalia or axillae must be examined carefully as overlooked eschar. Although genitalia or axillae must be examined carefully as overlooked eschar.

Methods. We reviewed the clinical features of the patients diagnosed as ST in adults from 2008 to 2016 at Ohita Nishinoichi General Hospital, a major teaching hos-

Results. Total 51 cases (serotype Karp, 24, Irie/Kawasaki 19, Hiranou/Kuroki 8) of ST were confirmed by elevated specific IgM and IgG in the paired sera and the positiv-
men and 1/30 (3%) in women. There was no eschar in genitalia and hips in men. In terms of serological type differences, eschars of Karp were found in all of parts of bod
ies (head, neck, upper extremities, chest, back, abdomen, genitalia, hips, knees/pop-
lite fossae, and feet). In contrast, no eschar was found in genitalia and hips in Irie/
Kawasaki and Hirano/Kuroki. No eschar was found in head, neck and feet in Hirano/
Kuroki as well. The contact body sites by vectors, behavior pattern of the patients (pas-
sage in women, etc.) and preference to human, such as slow-biter with migration to genitalia or axilla like Leptotrombidium pallidum (L. pallidum; vector of Karp) or quick-
biter as L. scutellare (vector of Irie/Kawasaki and Hirano/Kuroki) would be the causes of eschar distribution.

Conclusion. Eschar is the key feature of ST, so we should not be missed the find-
ing with the high index of suspicion in regards to eschar distribution of the sexes and the serotypes. Atypical presentation such as eschar negative ST should be concerned in this endemic area.

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311. Scrub Typhus and Abnormal Electrocardiography

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Background. This study evaluated abnormal electrocardiogram (ECG) types and frequencies and their associations with disease severity in patients with scrub typhus and normal age-match subjects.

Methods. Demographic characteristics and ECG and laboratory findings of patients with scrub typhus admitted to Chosun University Hospital and normal sub-
jects visiting the hospital for health check-ups from January 2008 to December 2012 were retrospectively studied.

Results. ECG abnormalities at admission were observed in 76 (43.2%) of 176 patients with confirmed scrub typhus. The following ECG abnormalities were observed: long QT interval (34 cases, 19.3%); ischemia, including ST-segment changes, abnormal Q waves, and poor R progression (26 cases, 14.8%); atrial fibrillation (AF) (16 cases, 9.1%); atrial premature contraction (5 cases, 2.8%) and premature ventricular complex (1 case, 0.6%); and conduction changes, including atrioventricular (AV) block, right bundle branch block (RBBB), and left bundle branch block (LBBB) (12 cases, 6.8%). Compared with the age- and sex-matched control group, ECG abnormalities were significantly more com-
mon among scrub typhus patients (43.6% vs. 13.9%, P < 0.001). Abnormal laboratory findings were significantly more common in patients with scrub typhus in the abnor-
mal ECG group, which showed a significantly higher severity score than the normal ECG group (6.47 vs. 5.05, P = 0.001); abnormal ECG findings were also correlated with increased disease severity.

Conclusion. ECG abnormalities were more common in patients with scrub typhus than in the general population and were associated with more severe disease. As QT prolongation occurs in ~20% of patients with scrub typhus, clinicians should pay additional attention to drugs that affect QT prolongation.

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312. CADM1 Overexpression and C7D? Downregulation in Strongyloides stercoralis and HTLV-1 Infection as Possible Markers for Adult T-cell Leukemia/ Lymphoma progression

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Background. Human T-cell lymphotropic virus (HTLV-1) is a retrovirus endemic in Latin America, Africa, and Asia. Increasing numbers are being reported in the United States. HTLV-1 causes Adult T-cell Leukemia/Lymphoma (ATL) in 3–5% of HTLV-1 carriers, usually only after a prolonged latent period. Co-infection with the nematode Strongyloides stercoralis (SS) is associated with early onset of ATL. The exact mechanism by which SS accelerates ATL development in HTLV-1 sub-
jects is not understood. CADM1 has been recently identified as a surface marker of HTLV-1 infected cells; C7D is a probable marker of early cell transformation. We hypothesize that previous SS infection will increase the proportion of infected T cells (CADM1+) and lead to transformation of infected cells (CADM1+C7Dlow) in HTLV-1 subjects.

Methods. In this pilot study, we tested seven subjects that were diagnosed with HTLV-1 between 2006 and 2008 and actively followed up at the HTLV-1 Cohort Clinic at the Tropical Medicine Institute in Lima, Peru. Five had previous SS infection. We performed surface flow cytometry staining of peripheral blood mononuclear cells with monoclonal antibodies against CADM1, C7D, CD4, and CD3. Current SS infection was ruled out by the Baermann technique in a stool sample.

Results. Average age was 53 years (range 30–79). Average time since diagnosis of HTLV-1 was 10 years (range 9–11). One 30-year-old patient with prior SS infection was diagnosed with ATL and hospitalized in the ICU at the time of follow-up and excluded from group comparison. This was a trend for higher proportion of CADM1+ T-cells in subjects with previous SS co-infection compared with those without SS (median 16.20% vs. 9.55%, P = 0.13, Mann–Whitney). The proportion of PBMCs that were CADM1+C7Dlow was also increased in some of those with previous SS (Figure 1).

Conclusion. Our pilot data suggest that SS co-infection is associated with pro-
longed effects on HTLV-1 infection. We noted trends towards increased numbers of HTLV-1 infected cells (CADM1+) and a predisposition towards malignant transfor-
mation (CADM1+C7Dlow). Further studies are needed to confirm this observation and to determine whether CADM1 and C7D expression may be useful as a screening tool to monitor HTLV-1 subjects at high risk of developing ATL.

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313. Comparison of Clinical and Demographic Characteristics and Disability at 6-Months Post Neurologic Onset Among Puerto Rico Guillain–Barré Syndrome Patients with and Without Evidence of Zika Virus Infection

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Background. Guillain–Barré syndrome (GBS) is a post-infectious autoimmune disorder characterized by progressive weakness due to peripheral nerve damage. In February 2016, Puerto Rico Department of Health and CDC implemented a surveil-

ance system to identify GBS cases during a Zika virus (ZIKV) outbreak. Data were analyzed to describe GBS patients with evidence of ZIKV infection.

Methods. Healthcare providers submitted case report forms and GBS patient specimens (i.e., serum, urine, CSF, and saliva) for ZIKV testing. Specimens were tested by RT-PCR and/or IgM ELISA and were classified as having evidence of ZIKV infec-
tion. GBS diagnosis was confirmed and clinical data were collected via chart review after hospital discharge or >28 days post neurologic onset for patients still hospi-
talized. Telephone interviews collected disability data at 6-months post neurologic onset using the Modified Rankin Score, Overall Disability Sum Score, and FACIAL Disability Index.

Results. Clinical and demographic characteristics of 71 patients with evidence of ZIKV infection were compared with 30 patients without evidence of ZIKV infection. Data on 6-month disability were available for 59 (83%) patients with and 24 (80%) patients without evidence of ZIKV infection. Patients with and without evidence of ZIKV infection did not differ by median age, median illness duration, frequency of severe symptoms, or median overall disability score. No patients had evidence of ZIKV infection. GBS patients with evidence of ZIKV infection were more likely to be female (49% vs. 27%, P = 0.036) and have a previous rash (52% vs. 10%, P < 0.001), facial weakness (59% vs. 27%, P = 0.003), facial paralysis (18% vs. 0%, P = 0.009), and excessive tearing or dry eyes at 6 months post neurologic onset (51% vs. 25%, P = 0.046).

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