REEVALUATION OF MSRV MEDIUM FOR ISOLATION OF
SALMONELLA SPECIES FROM HUMAN STOOL SAMPLES


**Background:** In an effort to demonstrate the use of Modified Semisolid Rappaport Vassiliadis medium (MSRV) as a reliable means of culturing *Salmonella* spp., we compared its performance against three more commonly used media included in clinical laboratory enteropathogen work-ups: MacConkey (MAC), Hektoen Enteric (HE), and Xylose Lysine Desoxycholate (XLD) agar.

**Method:** One thousand and ninety six (1,096) stool samples were inoculated onto MSRV, MAC, HE, and XLD agars, *Salmonella* spp. were identified by standard biotyping and confirmed by serogrouping.

**Result:** A total of 100 *Salmonella* positive samples were detected in this study. Recovery varied vastly between MSRV and the other commonly used media. The recovery on MSRV was 87%; on both MAC and XLD was 35%; and on HE a miserable 30% recovery.

**Conclusion:** MSRV, a semi-solid media which makes use of *Salmonella*’s motile nature while employing several agents to inhibit the growth of competing coliforms, proved superior in its ability to isolate the growth of *Salmonella* spp.

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TRENDS IN ANTIBIOTIC RESISTANCE AMONG ENTERIC PATHOGENS ISOLATED IN NEPAL


**Background:** The progressive increase in antimicrobial resistance among enteric pathogens in developing countries is becoming a critical area of concern. Despite the seriousness of the problem, surveillance for antibiotic-resistant enteric pathogens in this area has not been well reported and longitudinal trends are not available.

**Methods:** This study examined the antibiotic resistance trends for *Shigella*, non-typhoidal *Salmonella*, enterotoxigenic *E. coli* (ETEC), and *Campylobacter* isolated from travelers and expatriates in Nepal during 1992-1997 and 2001-2003. Disk diffusion and agar dilution techniques were used for antibiotic susceptibility testing. Data was analyzed and compared between strains isolated in 1992-1997 (N=535) and 2001-2003(N=204).

**Results:** *Shigella* showed significant increase in resistance against TMP-SXT (47% versus 73%, p = 0.001). Resistance to nalidixic acid of *Campylobacter, Salmonella, Shigella* and ETEC increased from 74%, 31%, 48% and 37%, respectively which were significantly increased from 1.5% before 2000(p<0.05 for all). Ciprofloxacin resistance among *Campylobacter* increased from 4% to 67% (p < 0.0001) while resistance was still not detected among the other pathogens. Azithromycin was highly effective for all pathogens isolated.
**Conclusion:** Enteric pathogens in Nepal have developed resistance to nalidixic acid. Additionally, *Campylobacter* has shown significant resistance to fluoroquinolones. Impending failure of fluoroquinolones in the treatment of diarrheal diseases should be expected in this area.

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**CIRCULATING PROVIRAL HIV DNA AND HIV-ASSOCIATED DEMENTIA**


**Objective:** Individuals continue to develop HIV-1-associated dementia (HAD) despite treatment with highly active antiretroviral therapy (HAART). Monocytes/macrophages (M/MΦ) can harbor proviral DNA that is not eradicated by HAART. To determine if HAD is associated with the level of HIV-1 infection within circulating leukocytes, we quantified HIV-1 DNA copy number in peripheral blood mononuclear cells (PBMC), and in PBMC subsets.

**Design:** Cross-sectional analysis within the Hawaii Aging with HIV Cohort comparing participants with HAD to those with normal cognition (NC).

**Methods:** Real-time PCR assays assessing HIV DNA copy number/1 x 10⁶ cells were performed on PBMC and subsets.

**Results:** Individuals with HAD (n = 27) had a median (interquartile range) of 9.11 (37.20) HIV DNA per 1 x 10⁶ PBMC compared to 0.49 (0.89) HIV DNA per 1 x 10⁶ PBMC in individuals with NC (n = 22). Using a univariate analysis in the subset of individuals with undetectable viral load (HAD, n = 11; NC, n = 13), the odds of HAD attributable to HIV DNA copy number was 2.76 (1.28-5.94), \( P < 0.01 \). Preliminary analysis of a small subset of patients (n = 5) suggested that the primary source of HIV DNA may be the activated M/MΦ (CD14/CD16) subset.

**Conclusions:** These findings suggest a potentially important association between circulating provirus and HAD.


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**DISCORDANT PLASMA AND CEREBRAL SPINAL FLUID CYTOKINES/CHEMOKINES IN RELATION TO HIV-1-ASSOCIATED DEMENTIA**


Monocytes and macrophages serve as HIV-1 reservoirs and may indirectly lead to HIV-1-associated dementia via neurotoxic cytokine/chemokine production. It remains unknown if peripheral monocytes and macrophages are responsible for the presence of circulating and cerebral spinal fluid cytokine/chemokine. The purpose of this evaluation was to determine the relationship between inflammatory and chemoattractant cytokine/chemokine in the periphery...