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Antibiotic susceptibility profiles of group B streptococci (GBS) isolates from pregnant mothers in a tertiary institution in Nigeria

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Background: Penicillin is recommended as the first-line agent for intrapartum antibiotic prophylaxis, while ampicillin is considered as an acceptable alternative. Although GBS strains are generally susceptible to penicillin with only occasional resistance, they show varying resistance to erythromycin, clindamycin and tetracycline. Therefore, a knowledge of the resistance profile of GBS in the local environment will be useful for administration of appropriateintrapartumantibiotics prophylaxis.

Methods & Materials: Rectovaginal swabs collected from pregnant women were cultured for GBS using conventional media.Kirby-Bauer disc diffusion method was performed according to the Clinical Laboratory Standards Institute (CLSI) guidelines on GBS isolates to determine the antibiotic susceptibility patterns of the isolates. Inducible clindamycin resistance was detected by using the D-zone test. Resistance determinants were discerned with conventional PCR. *Streptococcus agalactiae* control strainsIa (2008232728),Ib (2008232729),III (2008232582) andV (2008232731) from CDC were usedfor quality control of antibiotic susceptibility testing.

Results: All 46 available strains of GBS colonizing the pregnant mothers were uniformly susceptible (100%) to penicillin, vancomycin and ceftriaxone, while 44 (95.7%) and 41 (89.1%) were resistant to tetracycline and trimethoprim- sulfamethoxazole respectively (Table 2). Only three (6.5%) of the isolates showed erythromycin-clindamycin inducible resistance. *ermA* gene was present in all three GBS isolates with erythromycin-clindamycin inducible resistance and absent in the only one strain with intermediate resistance. *ermB* was absent in all the four strains tested while the *mefA*/E gene was carried by two of the macrolide- clindamycin resistance isolates. *tetM* gene was carried by all isolates that showed tetracycline resistance phenotypes.

Antibiotic Susceptibility Profile of maternal GBS Strains

Antibiotic	Susceptibility, %	Intermediate susceptibility, %	Resistance, %
Penicillin G (10U)	46 (100)	-	-
Erythromycin (15ug)	43 (93.5)	-	3 (6.5)
Clindamycin (2ug)	42 (91.2)	1 (2.3)	3 (6.5)
Vancomycin (30ug)	46 (100)	-	-
Tetracycline (30ug)	2 (4.3)	-	44 (95.7)
Ceftraixone (30ug)	46 (100)	-	-
Ciprofloxaxin (5ug)	46 (100)	-	-
SXT (1.25/23.75ug)	5 (10.9)	-	41 (89.1)

SXT: Trimethoprim- Sulfamethoxazole
(n = 46)

Conclusion: In this study, all GBS isolates were susceptible to Penicillin G, the recommended antibiotic for intrapartum antibiotic prophylaxis. Also, a very low resistance rate recorded for erythromycin and clindamycin in this study implied that women allergic to β-lactam antibiotics can alternatively receive intravenous clindamycin or erythromycin.

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Infections after Biologic Agent Therapy in rheumatic diseases

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Background: Biologic therapies for rheumatologic diseases, which are targeted at molecules involved in the mechanisms of the immune system, provide an alternative to the existing treatment methods of disease-modifying anti-rheumatic drugs and other immunosuppressive medications. Biologic agents have demonstrated efficacy in inflammatory rheumatic diseases (IRDs). However, the drugs have side effects, inparticular increased risk of bacterial and viral infection.

Methods & Materials: 705 patients with rheumatic diseases who received biologics treatment evaluated for the presence of active infection by clinical examination, blood count, urine analysis, liver function tests, chest X-ray, HbsAg, Anti-HCV, tuberculin skin test and bacterial and tuberculosis culture study if necessary.

Results: Patients (Ankylosing Spondylitis (AS):329; Enteropathic Arthritis (EA):64; Psoriatic Arthritis (PSA):44; Rheumatoid Arthritis (RA):175; Behcet's Disease (BD):34; Familial Mediterrenean Fever (FMF):21; Juvenile Rheumatoid Arthritis (JRA):10; Others:26) were identified by reviewing the medical records treated with biologic agents; abatacept (2%); adalimumab (33%), infliximab (24.4%), golimumab (2.6%), rituximab (10.7%), anakinra (1.7%), canacinumab (0.1%), tocilizumab (1%) or etanercept (24.3%) between 2003 and 2012. Mean disease duration was 9.95 ± 7.73

years (0.5-50) and mean drug treatment duration was 19.78 ± 16.05 months (1-108). There were 4 common infections pnömonia (2.1%; AS:5; EPA:1; PSA:2; RA:5; BD:1; JRA:1), urinary infection (2.7%; AS:8; EPA:2; RA:7; JRA:1), urinary tract tuberculosis (0.7%; AS:1; RA:4) and herpes zoster (0.7%; AS:2; EPA:1; RA:1; Others:1) in all patients. HbsAg was positive in patients who received adalimumab (n = 1), etanercept (n = 1), rituximab (n = 2). Anti-HCV was positive in patients who received adalimumab (n = 1), etanercept (n = 2), infliximab (n = 2). Urinary tract tuberculosis was present in 5 patients (AS:1; RA:4) who received abatacept (n = 1), adalimumab (n = 1), etanercept (n = 2), rituximab (n = 1). No viral infection activation was seen in patients with HbsAg and Anti-HCV positive. Herpes zoster was present in 5 patients (AS:2; EPA:1; RA:1; Others:1) who received adalimumab (n = 3), infliximab (n = 1), rituximab (n = 1).

Conclusion: Our results suggest thatbiologic therapies for rheumatologic diseases have demonstrated rare infections such as pnömonia, urinary infection, urinary tract tuberculosis and herpes zoster. Biologic treatments appears to be safety although long time follow up.

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The role of *Porphyromonas gingivalis* in the development of atherosclerosis and its relationship with fim A genotype

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Background: Porphyromonas gingivalis, a major periodontal pathogen, is gaining increasing attention for its possible association with atherosclerosis. Its fimbriae are classified into six genotypes (Types I-V, Ib) based 0on the diversity of the fim A genes encoding the fimbrial subunits. In this study, fim A genotype's distribution of P. gingivalis was analyzed in atherosclerotic plaque specimens.

Methods & Materials: A total of 50 atherosclerotic plaque specimens and 50 non-atherosclerotic, post stenotic aneurysm specimens were collected from patients undergoing cardiovascular surgery. Bacterial DNA was also extracted from each specimen, as real-time PCR was carried out with P. gingivalis-specific primer sets. The positive specimens of P. gingivalis were further analyzed to discriminate the fim A genotype using real-time and nested PCR methods.

Results: P. gingivalis was detected only in one atherosclerotic plaque; however, the genotype was nontypable in this specimen.

Conclusion: We state that it is not easy to show a significant relationship between P. gingivalis, its fim A genotype, and atherosclerosis. We suggest that new extended studies based especially upon the quantitave determination of P. gingivalis and its genotype distribution on atherosclerotic specimens are needed to show an evident relationship between atherosclerosis and P. gingivalis.

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Tuberculin skin test and QuantiFERON test for detection of latent *Mycobacterium tuberculosis*

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Background: Not everyone infected with Mycobacterium Tuberculosis bacteria (MTB) becomes sick. As a result, two TB-related conditions exist: latent TB infection and TB disease. Persons with latent TB infection do not feel sick and do not have any symptoms. They are infected with M. tuberculosis, but do not have TB disease. Overall, without treatment, about 5 to 10% of infected persons will develop TB disease at some time in their lives. About half of those people who develop TB will do so within the first two years of infection.

Methods & Materials: Our aim in this study was to determine the prevalence of latent M. tuberculosis using tuberculin skin testing (TST) and QuantiFERON- TB Gold In- Tube (QFT- GIT) test in household contacts with pulmonary TB.

Results: A total of 88 participants had both a TST result and a QFT-GIT test results available for comparison. QFT- GIT showed lower positive results than TST (39.8% vs. %76.1.) We found poor agreement between the two tests (kappa = 0.014)). Eight cases were negative for TST and positive for QFT- GIT. No statistical significant relation was found between BCG vaccination or age with the result of TST and QFT- GIT whether positive or negative

Conclusion: TST had higher results than QFT- GIT in determining latent M. tuberculosis in household contacts with pulmonary TB. Discordant results between TST and QTF- GIT were common in our study, so further studies are needed to get a better understanding of this phenomenon, which is of high practical importance when QFT- GIT results will be used for therapeutic decision making

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