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Role of cytokines and CD 79 molecule in pathogenesis of *St. agalactiae* placentitis in aborted women.

A Thesis

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Abstract

Group B *streptococcus* (GBS) or *Streptococcus agalactiae* are members of the normal flora of the female genital tract. Since the mid-1960s, GBS has become the major cause of bacterial infections in the perinatal period, including bacteraemia, amnionitis, endometritis, and urinary tract infection in pregnant women .The objective of this study included bacteriological isolation and identification of *S. agalactiae,* susceptibility test for antibiotic and investigate serum level of cytokines (IL-2&IL-8) in aborted woman ,also this study aimed to determine CD 79& CD54 expression & histopathalogical change in placental tissue. A total of 100 placental tissue, blood and vaginal swab samples were collected from aborted woman, their ages (15to 40) years during the period extended from October, 2014 to January, 2015, who attended to Children and delivery's Hospital in Samawah city. A number of criteria have been measured during the course of the study. First criteria included a diagnosis of aborted women infected with *S. agalactiae* by bacterial isolation and identification and clinical observation, all isolates were serotyped by the Lancefield grouping system, then confirmed by vitek system and tested it ability for susceptibility of antibiotics . The second criterion ,included estimation of cytokines level(IL-2&IL-8) in serum of aborted women infected & non infected with *S. agalactiae* . The third criterion, Expression of CD79 & CD45 molecules in the placenta was evaluated by immunohistochemical technique . Histopathalogical study was done to assess the changes in aborted placenta. The results showed that, there were 7 (11%) positive isolates of *S.agalactiae*. These positive isolates identified by five methods such as (Culture method, biochemical tests, Api 20 Strep system, vitek system and serological test (lancefield grouping test).

As well as, the antibiotic susceptibility test revealed all GBS strains were sensitive for ceftriaxon, nitrofurantoin , Cefotaxime and vancomycin significantly (P>0.05). While *S. agalactiae* isolates showed resistance rates(14.3%)for penicillinG, Linezolid, Ampicillin, Levofloxacin &Sulfamethaxazole /Trimethoprim. Also *S. agalactiae* isolates showed insignificant resistance 28.57% for clindamycin & (42.86%) for erythromycin .On the other hand all *S.agalactiae* isolates showed non significantly resistance (100%) for Tetracycline. Host response to cervicovaginal and/or intrauterine infections is coupled with a release of various inflammatory mediators, (cytokines) For normal pregnancy to be established, a Th2 type immune response must be induced by the maternal immune system at the maternal-fetal interface .The induction of a strong Th 1 cytokine response at the fetal maternal interface may result in rejection of the fetus. All serum samples were analyzed for IL-2 & IL-8 by (ELISA). showed highly significant increases (P<0.05) in the serum level of IL-2 in woman that infected with *S.agalactiae* compared with non-infected with *S.agalactiae* . Also, IL-8 level showed highly significant(P<0.05) increases in woman that infected with *S.agalactiae* compared with aborted woman non infected with *S. agalactiae* . Histopathalogical examination of placenta specimens showed necro- fibrinoid and necro-hemorrhagic placentitis , occurrence of infiltration of inflammatory cells including neutrophils & macrophage and exudates . also there is scattered inflammatory cells with kilocytosis along the decidual plate , this results were significantly associated with cytokines & immunohistochemical results , IHC study revealed high expression level of CD 79 & CD54molecules in placental tissue of *S. agalactiae* infected aborted women . compared with that negative for *S. agalactiae* infection .