

INTISARI

Infeksi Streptokokus grup B (SGB) pada wanita hamil adalah penyebab utama terjadinya kelahiran prematur, ketuban pecah dini, infeksi post partum, pneumonia, meningitis dan sepsis pada neonatus. Respon imun terhadap infeksi SGB sangat kompleks. Hubungan antara respon imun spesifik dan non spesifik terhadap SGB, keterlibatan reseptor, sitokin pro-inflamasi, sitokin anti-inflamasi serta IgG anti SGB masih belum dapat dijelaskan sepenuhnya.

Tujuan penelitian ini adalah mengetahui hubungan antara kadar reseptor TLR-2 solubel, kadar sitokin pro-inflamasi (TNF- α dan IL-6), kadar sitokin anti-inflamasi (IL-10), rasio kadar sitokin pro-inflamasi dengan sitokin anti-inflamasi (TNF- α /IL-10 dan IL-6/IL-10) serta *absorbance unit* IgG anti SGB pada wanita hamil dengan kultur SGB positif. Informasi pengetahuan ini akan berguna dalam menjelaskan patogenesis infeksi SGB pada wanita hamil.

Penelitian observasional analitik dengan disain *cross sectional* dilakukan terhadap 385 wanita hamil di RSUD Abdul Wahab Sjahranie Samarinda. Pengamatan dilakukan terhadap usia, paritas, usia kehamilan, pendidikan dan kultur swab vagina dan rektum. Pada 75 wanita hamil yang ditemukan kultur SGB positif dilakukan pengukuran kadar TLR-2 solubel, TNF- α , IL-6, IL-10, *absorbance unit* IgG anti SGB dan penghitungan rasio kadar sitokin pro-inflamasi dengan sitokin anti-inflamasi (TNF- α /IL-10 dan IL-6/IL-10)

Hasil penelitian ini menunjukkan bahwa tidak ada korelasi bermakna antar kadar TLR-2 solubel dengan kadar sitokin TNF- α , IL-6 dan IL-10 (masing-masing $r=-0,064$; $p=0,587$ $r=-0,069$; $p=0,558$ $r=-0,166$; $p=0,155$). Tidak ada korelasi bermakna antara kadar reseptor TLR-2 solubel dengan *absorbance unit* IgG ($r=0,077$; $p=0,509$). Tidak ada korelasi bermakna antara kadar sitokin TNF- α , IL-6 dan IL-10 dengan *absorbance unit* IgG anti SGB (masing-masing $r=0,100$; $p=0,392$ $r=-0,122$ $p=0,299$ $r=-0,110$; $p=0,347$). Tidak ada korelasi bermakna antara rasio sitokin pro-inflamasi dan anti-inflamasi TNF- α /IL-10, IL-6/IL-10 dengan *absorbance unit* IgG anti SGB (masing-masing $r=0,146$; $p=0,212$; $r=-0,017$; $0,887$). 22,3% wanita hamil di RSUD AWS kultur SGB positif dan 88,8% memiliki *absorbance unit* IgG anti SGB rendah di bawah *cut off*.

Disimpulkan bahwa kolonisasi infeksi SGB tidak mengaktifkan respons imun melalui jalur TLR-2, karena inhibisi oleh TLR-2 solubel yang meningkat, SGB yang *poorly immunogenic*, SGB resisten terhadap fagositosis dan karena mukosa *rektovaginal* wanita hamil *immune tolerance* terhadap SGB. Sebagian kecil yang memiliki *absorbance unit* IgG anti SGB tinggi dapat dipengaruhi kolonisasi SGB yang tinggi, peran gen terkait respons imun humoral dan fungsi imunitas seseorang serta peran respons imun melalui jalur TLR-2/MyD88 *independent* dan T-*independent*

Kata Kunci: Streptokokus grup B, TLR-2 solubel, TNF- α , IL-6, IL-10, IgG anti SGB.

ABSTRACT

GBS infection in pregnant women is the main cause of premature deliveries, early amniotic ruptures, post-delivery infections, meningitis and neonatal septic. Immune response to GBS infection is a complex matter. Relationship between specific / nonspecific immune response and GBS, involvement of receptors, pro-inflammatory cytokines, IL-6 anti-inflammatory cytokines, and anti GBS IgG are not fully understood.

The objectives of this study were to determine the relationship between soluble TLR-2 receptor level, pro inflammatory cytokines level (TNF alpha and IL-6), anti-inflammatory cytokines (IL-10), and absorbance unit of anti GBS IgG with the GBS positive in the culture. Information of this knowledge will be useful in explaining the pathogenesis of GBS infection on pregnant woman.

An analytic descriptive observational study was carried out on 385 pregnant women in Abdul Wahab Sjahranie Hospital. The observations were for age, number of pregnancies, gestation, education, also rectal and vaginal swabs. We found 75 pregnant women were positive in culture. Then we performed analytic descriptive observational study – cross sectional design – measuring levels of soluble TLR-2, TNF alpha, IL-6, IL-10, and absorbance unit of anti GBS IgG.

In this study we found that there are no significant correlations between level of soluble TLR-2 and levels of TNF-alpha, IL-6, and IL-10 ($r = -0.064$; $p=0.587$ $r = -0.69$; $p=0.558$ $r = -0.166$; $p=0.155$ respectively). There is no significant correlation between level of soluble TLR-2 receptor and anti GBS IgG absorbance unit ($r=0.077$; $p=0.509$). There are no significant correlation between levels of cytokines TNF-alpha, IL-6, and IL-10 and absorbance unit of anti GBS IgG ($r=0.146$; $p=0.212$, $r=-0.017$; $p=0.887$, respectively). Of 88.8% pregnant women in AWS hospital have absorbance unit of anti GBS IgG below cut off.

It can be concluded that colonizations of GBS infection do not activate immune response through TLR-2 pathway due to the increasing of TLR-2 soluble inhibitions, poorly immunogenic SGB, phagocytic resistant GBS, and the pregnant women rectovaginal mucous layer were GBS immune tolerance. A small amount of high anti GBS IgG absorbance unit is considered to be influenced by high colonization of GBS, genetic role regarding to humoral immune responses, individual immune responses, and role of immune responses through TLR-2/MyD88 independent and T-independent.

Key words: *Group B Streptococcus*, soluble TLR-2, TNF- α , IL-6, IL-10, anti GBS IgG